



APPLICATION FOR PREAPPROVAL SPECIAL SEISMIC CERTIFICATION OF EQUIPMENT AND COMPONENTS

For Office Use Only

APPLICATION NO.
OSP -0183-10

Check whether application is: NEW RENEWAL

1.0 EMCOR Mesa Energy Systems Zachary F. Jensen, P.E.
Manufacturer *Manufacturer's Technical Representative*

1445 Doolittle Drive, San Leandro, CA 94577
Mailing Address

(510) 670-1690 Zachary Jensen@emcorgroup.com
Telephone *E-mail Address*

2.0 Temperature Control Panels Control Panels
Product Name *Product Type*

Panels are custom built.
Product Model No. (List all unique product identification numbers and/or serial numbers)

General Description: Rigid wall mounted EMCOR temperature control panels contain Andover/Schneider controllers and network equipment for the management of HVAC and other mechanical units. These components are installed in NEMA Types 1, 4, or 12 wall-mounted enclosures.

3.0 EMCOR Mesa Energy Systems Zachary F. Jensen, P.E.
Applicant Company Name *Contact Person*

1445 Doolittle Drive, San Leandro, CA 94577
Mailing Address

(510) 670-1690 Zachary Jensen@emcorgroup.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

Engineering Manager

Title

7/29/2016

Date

EMCOR Mesa Energy Systems

Company Name



Registered Design Professional Preparing the Report

4.0

Forell/Elsesser Engineers

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

c.sempere@forell.com

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

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

Company Name

Deepa Shetty

Contact Name

38995 Cherry Street, Newark, CA 94560

Mailing Address

(510) 578-3500 x2105

Telephone

deepa.shetty@nts.com

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) = 1.96g

S_{DS} (Spectral response acceleration at short period) = 2.61g

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 attached 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

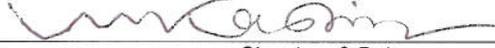
Overall dimensions and weight (or range thereof) =

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)

 Signature & Date M. R. Karim, SHFR	5/18/2011	December 31, 2016 Approval Expiration Date
Name & Title	S_{DS} (g) = 2.61 z/h = 1.0	
Condition of Approval (if any):	Special Seismic Certification Valid Up to	

OSP APPLICATION
EMCOR - Control Panels
Product Range Summary

EMCOR - Control Panels Product Range Summary					
	Height	Width	Depth	Max. Weight	Notes
Enclosures					
Hoffman Wall-Mount Enclosure	12.0 in	12.0 in	6.0 in	n/a	1, 2
Seismic performance characteristics for control panels of intermediate sizes and weights are interpolated					
Hoffman Wall-Mount Enclosure	48.0 in	36.0 in	13.3 in	212 lbs	1, 2
Notes					
1. Enclosures may be NEMA Types 1, 4, or 12.					
2. Enclosures are 16ga or 14ga cold-formed carbon steel.					

Enclosures	Part #	Test Status
Hoffman CONCEPT 12"x12"x6" Enclosure (smallest)	CSD12126	Interpolated
Hoffman CONCEPT 20"x16"x6" Enclosure, NEMA 4	CSD20166	Tested
Hoffman Enclosures (intermediate sizes)	CSD*/CTD*/A*	Interpolated
Hoffman Large 48"x36"x13.25" Enclosure, NEMA 1	A48N3613	Tested

Internal Components	Part #	Test Status
Andover/Schneider 120/240vac Continuum UPS Power Supply (70W)	PS-120/240-AC85-U	Tested
12VDC Battery 7Ah	n/a	Tested
Veris 120vac/24vac, 40va Transformer	X040AAA	Tested
Veris 120vac/24vac, 150va Transformer / Breaker	X150CAA	Tested
IDEC 120vac/24vdc PS5R Standard Power Supply	PS5R	Tested
Kele 24vac/24vdc, 1.5A Power Supply, Option 3	DCP-1.5-W	Tested
Phoenix 24vdc Power Supply Step-PS/1AC/24DC/0.75	2868635	Tested
Phoenix 24vdc Lighted, Fused Disconnect (UT-4-HESILA 250)	3046090	Tested
Phoenix 120vac Lighted, Fused Disconnect (UT-4-HESILA 250)	3046100	Tested
Buss 1 amp Fuse	GDC-1A	Tested
Buss 3 amp Fuse	GDC-3.15A	Tested
Phoenix Grounded Terminal Strip (UT-4-PE)	3044128	Tested
Phoenix Terminal Strip (UT-4)	3044102	Tested
Phoenix Disconnect Terminal Strip (UT-4-MT)	3046139	Tested
Phoenix 3-Level Terminal Strip (DIKD 1,5)	2715979	Tested
Leviton Electrical Outlet, 120vac, 15amp	5320-ICP	Tested
Hubbell GFCI Electrical Outlet, 120vac, 15amp	GF15WL	Tested
Appleton 2"x4" Electrical Handy Box & Cover (#2510)	4SSL1/2	Tested
Air Products 24vac SPDT Relay w/ HOA Switch	MR-602/T	Tested
IDEC 24vac, 2P2T Relay	RH2B-ULAC24V	Tested
IDEC 2P2T Relay Subbase	SH2B-05	Tested
IDEC 24vac, 4P2T Relay	RH4B-ULAC24V	Tested
IDEC 4P2T Relay Subbase	SH4B-05	Tested
Andover/Schneider Expansion Modules	xPD18	Interpolated
	xPU14	Tested
	xPAO2	Interpolated
	xPA04	Tested
	xPDO2	Interpolated
	xPDO4	Interpolated
	xP Display	Interpolated

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

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OSP APPLICATION
EMCOR - Control Panels
Product Range Summary

Internal Components	Part #	Test Status
Andover/Schneider NetController II CPU Modules - modules differ in software configuration only -	NC2-R-000000000	Interpolated
	NC2-R-008000000	Tested
	NC2-R-032000000	Interpolated
	NC2-R-064000000	Interpolated
	NC2-R-127000000	Interpolated
	NC2-R-254000000	Interpolated
	NC2-F-000000000	Interpolated
	NC2-F-008000000	Interpolated
	NC2-F-032000000	Interpolated
	NC2-R-064000000	Interpolated
	NC2-R-127000000	Interpolated
Andover/Schneider BACnet Controller/Routers - modules differ in software configuration only -	BCX1-R	Interpolated
	BCX1-CR	Tested
Andover/Schneider Infinet II Controllers	i2920	Tested
	i2608	Interpolated
	i2624	Interpolated
	i2800	Interpolated
	i2804	Interpolated
	i2810	Interpolated
	i2814	Interpolated
	i2850	Interpolated
	i2851	Interpolated
	i2853	Interpolated
	i2865	Interpolated
Andover/Schneider BACnet Controllers	i2866	Interpolated
	i2867	Tested
	b3608	Interpolated
	b3624	Interpolated
	b3800	Interpolated
	b3804	Interpolated
	b3810	Interpolated
	b3814	Interpolated
	b3850	Interpolated
	b3851	Interpolated
	b3853	Interpolated
	b3865	Interpolated
	b3866	Interpolated
	b3867	Tested
b3885	Interpolated	
b3887	Interpolated	
b3920	Tested	
b4920	Interpolated	

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TEST SUMMARY

Tested Unit #1 (UUT1)

UUT 1

Temperature Control Panel
(largest in product line)
48"H x 36"W x 13.25"D NEMA 1
212 lbs



Enclosure	Part #
Hoffman Large 48"x36"x13.25" Enclosure, NEMA 1	A48N3613
Internal Components	
	Part #
Andover/Schneider 120/240vac 70W Continuum UPS Power Supply	PS-120/240 AC 85-U
12VDC Battery 7Ah	n/a
Andover/Schneider NetController II CPU Module 8 Nodes, RS I/O Bus Interface	NC2-R-008000000
Andover/Schneider Infinet II, Direct Digital Controller, 16 UI, 8 DO, 8 AO	i2920
Andover/Schneider 4 Digital Output Expansion Module w/ Override	xPDO4
Andover/Schneider BACnet, Direct Digital Controller, 16 UI, 8 DO, 8 AO	b3920
Andover/Schneider 4 Universal Input Expansion Module	xPUI4
Andover/Schneider BACnet 32 Node Controller/Router, 24vdc/24ac, 10/100T	BCX1-CR-32
Veris 120vac/24vac, 150va Transformer / Breaker	X150CAA
IDEC 120vac/24vdc, 50W Power Supply	PS5R-D24
Phoenix 24vdc Power Supply Step-PS/1A/24DC/0.75	2868635
Phoenix 24vdc Lighted, Fused Disconnect (UT-4-HESILA 250)	3046090
Phoenix 120vac Lighted, Fused Disconnect (UT-4-HESILA 250)	3046100
Buss 1 amp Fuse	GDC-1A
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Phoenix Grounded Terminal Strip (UT-4-PE)	3044128
Phoenix Terminal Strip (UT-4)	3044102
Phoenix Disconnect Terminal Strip (UT-4-MT)	3046139
Leviton Electrical Outlet, 120vac, 15amp	5320-ICP
IDEC 24vac, 2P2T Relay	RH2B-ULAC24V
IDEC 2P2T Relay Subbase	SH2B-05
IDEC 24vac, 4P2T Relay	RH4B-ULAC24V
IDEC 4P2T Relay Subbase	SH4B-05

Tested Unit #2 (UUT2)

UUT 2

Temperature Control Panel
(smallest in product line)
20"H x 16"W x 6"D NEMA 4
58 lbs



Enclosure	Part #
Hoffman CONCEPT 20"x16"x6" Enclosure, NEMA 4	CSD20166
Internal Components	
Phoenix Grounded Terminal Strip (UT-4-PE)	3044128
Phoenix Terminal Strip (UT-4)	3044102
Phoenix Disconnect Terminal Strip (UT-4-MT)	3046139
Phoenix 3-Level Terminal Strip (DIKD 1,5)	2715979
Phoenix 120vac Lighted, Fused Disconnect (UT-4-HESILA 250)	3046100
Buss 1 amp Fuse	GDC-1A
Phoenix 24vdc Lighted, Fused Disconnect (UT-4-HESILA 250)	3046090
Buss 3 amp Fuse	GDC-3.15A
Hubbell GFCI Electrical Outlet, 120vac, 15amp	GF15WL
Appleton 2"x4" Electrical Handy Box & Cover (#2510)	4SSL1/2
Veris 120vac/24vac, 40va Transformer	X040AAA
Kele 24vac/24vdc, 1.5A Power Supply, Option 3	DCP-1.5-W
Andover/Schneider Ininet II, Direct Digital Controller, 5 UI, 5 DO, 2 AO	i2867
Andover/Schneider BACnet, Direct Digital Controller, 5 UI, 5 DO, 2 AO	b3867
Air Products 24vac SPDT Relay w/ HOA Switch	MR-602/T

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