



**DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0152

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: IEA, LLC, an Engendren Corporation Subsidiary

Manufacturer's Technical Representative: Rob Walsh

Mailing Address: 9625 55th Street, Kenosha, WI 53144

Telephone: (262) 842-1414

Email: RWalsh@iearad.com

Product Information

Product Name: Emergency and Standby Power Systems

Product Type: Remote Radiators

Product Model Number: RCC10001S-AFC, RCC1501S-AFC, RCC1002S-AFC, RCC1502S-AFC

General Description: RCCs are stand-alone air cooling units used to cool hot turbocharger air prior to being introduced to the engine's combustion process. An RCC is used when the radiator cannot be mounted near the engine.

Mounting Description: Custom Frame, Floor Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: Dynamic Certification Laboratories, LLC

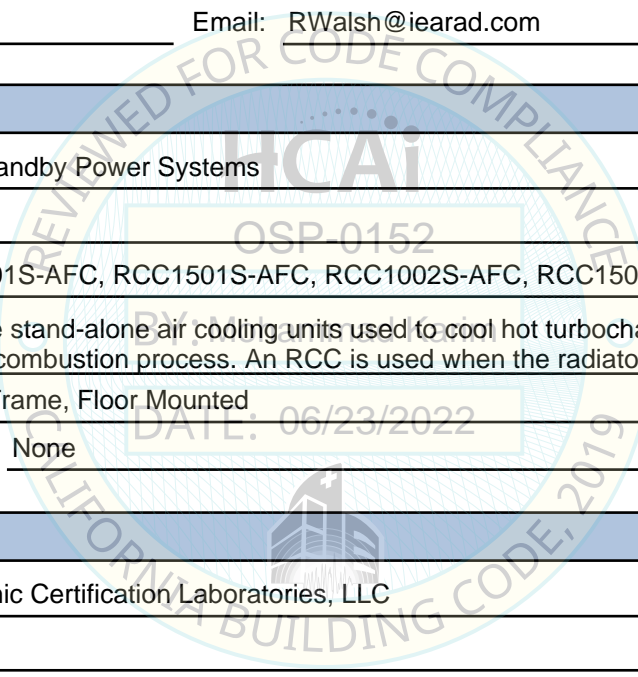
Contact Person: Kelly Laplace

Mailing Address: 1315 Greg Street, Sparks, NV 89431

Telephone: (775) 358-5085

Email: kelly@shaketest.com

Title: Business Manager





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

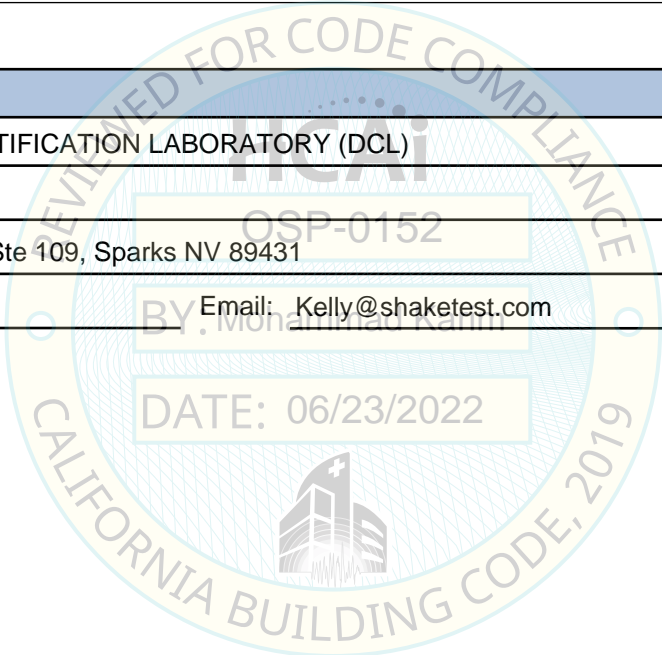
Company Name: THE VMC GROUP
Name: Kenneth Tarlow California License Number: S2851
Mailing Address: 980 9th Street, 16th Floor, Sacramento, CA 95814
Telephone: (832) 627-2214 Email: ken.tarlow@thevmcgroup.com

Certification Method

GR-63-Core ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
 Other (Please Specify): _____

Testing Laboratory

Company Name: DYNAMIC CERTIFICATION LABORATORY (DCL)
Contact Person: Kelly Laplace
Mailing Address: 1315 Greg St., Ste 109, Sparks NV 89431
Telephone: (775) 358-5085 Email: Kelly@shaketest.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.7

SDS (Design spectral response acceleration at short period, g) = 2.26

a_p (Amplification factor) = 2.5

R_p (Response modification factor) = 6.0

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

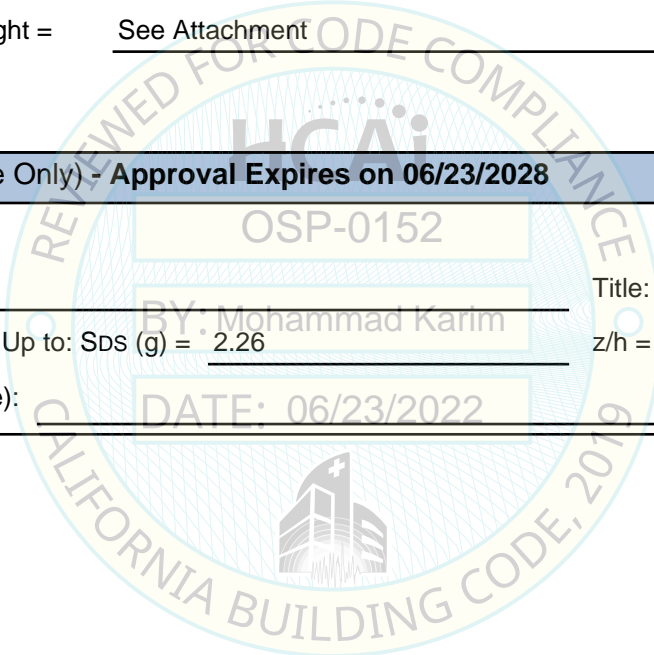
HCAI Approval (For Office Use Only) - Approval Expires on 06/23/2028

Date: 6/23/2022

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.26 z/h = 1

Condition of Approval (if applicable): DATE: 06/23/2022



**Table 1 - Special Seismic Certification
Certified Component Matrix**



DCL Project No.: 28003-2201

Manufacturer: IEA

Product Line: RCC

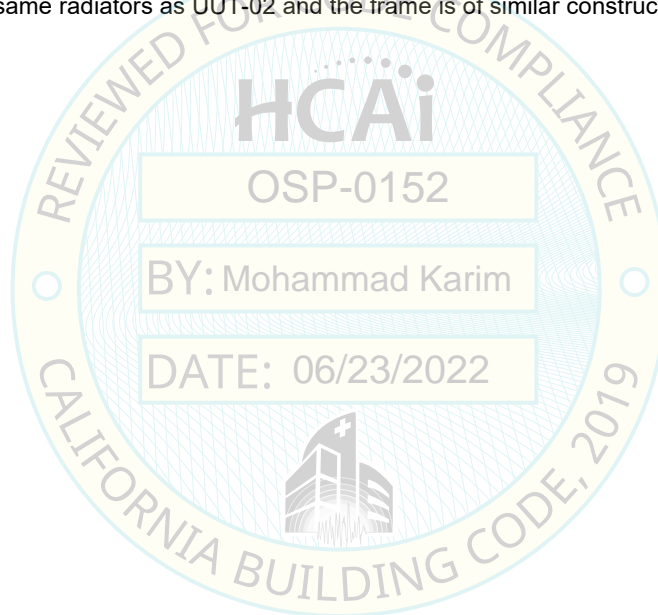
Product Construction: Carbon steel structure with inlet and outlet pipes

Test Level: Sds = 2.26g, z/h = 1.0

Model	Dimensions (in)			Approx. Weight (lb)	Frame Construction	Sds (g), z/h=1.0	UUT
	Length	Width	Height				
RCC1001S-AFC	30.5	26.0	64.9	350	Carbon steel	2.26	Extrapolated ¹
RCC1501S-AFC	23.4	36.0	81.0	556			Extrapolated ²
RCC1002S-AFC	78.0	22.0	50.7	690			UUT-01
RCC1502S-AFC	66.4	36.0	81.0	1,100			UUT-02

1. RCC1001S-AFC uses the same radiators as UUT-01 and the frame is of similar construction of UUT-02

2. RCC1501S-AFC used the same radiators as UUT-02 and the frame is of similar construction to UUT-02



DCL Project No.: 28003-2201

Product Line: RCC

Test Level: Sds = 2.26g, z/h = 1.0

Table 2 - Certified Subcomponents - Frame

Model	Dimensions (in)			Approx. Weight (lb)	Manufacturer	Material	UUT
	Length	Width	Height				
Frame Assy RCC10 X1 500KW	30.5	26.0	55.6	145	IEA	Carbon steel	Extrapolated
Frame Assy RCC15 X1 1000KW	24.9	36.0	71.1	247			Extrapolated
Frame Assy RCC10 X2 1000KW	78.0	16.7	41.4	256			UUT-01
Frame Assy RCC15 X2 2000KW	66.4	36.0	71.1	383			UUT-02

Table 3 - Certified Subcomponents - Housing

Model	Dimensions			Approx. Weight (lb)	Manufacturer	Material	UUT
	Length	Width	Height				
Housing RCC1001S	15.8	17.3	39.3	121	Professional Fabricators	Stainless steel	UUT-01
Housing Welded SS RCC15	18.9	20.3	44.0	205			UUT-02

Table 4 - Certified Subcomponents - Core

Model	Dimensions			Approx. Weight (lb)	Manufacturer	Material	UUT
	Length	Width	Height				
Cool Sect RCC10 SX3 500 KW	15.8	14.8	22.1	48	IEA	Aluminum	UUT-01
Cool Sect RCC SX4 1.5	18.9	17.5	25.1	89			UUT-02

Table 5 - Special Seismic Certification



Tested Units

DCL Project No.: 28003-2201

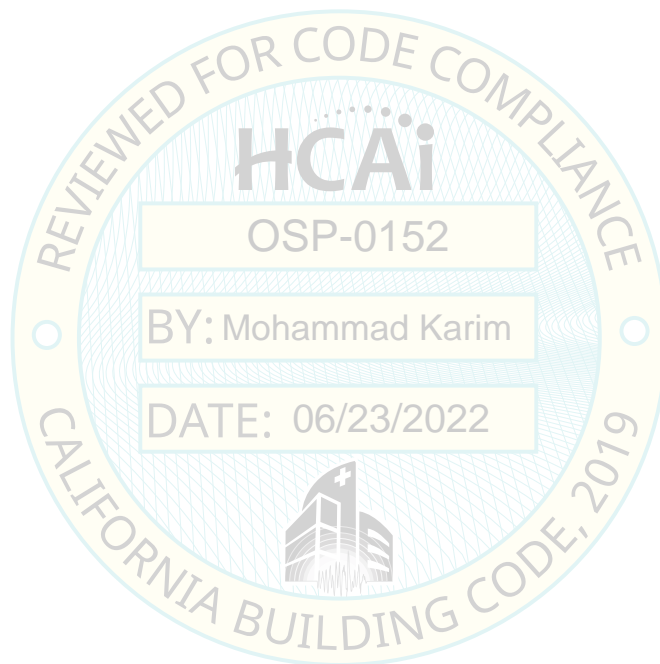
Manufacturer: IEA

Product Line: RCC

Product Construction: Carbon steel structure with inlet and outlet pipes

Test Level: Sds = 2.26g, z/h = 1.0

Model	Dimensions			Approx. Weight (lb)	Construction Material	UUT
	Length	Width	Height			
RCC1002S-AFC	78.0	22.0	50.7	690	Carbon steel	UUT-01
RCC1502S-AFC	66.4	36.0	81.0	1,100		UUT-02



UUT-01 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28003-2201

Manufacturer: IEA, LLC

Product Line: RCC

Model Number: RCC1002S-AFC

Product Construction Summary:

Steel structure with inlet and outlet pipes

Options / Component Summary:

Carbon steel frame, stainless steel housing, and aluminum core

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
690	78.0	22.0	50.7	9.8	9.5	>33

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.60

Unit Mounting Description: Each radiator was mounted to the manufacturer-provided steel frame with twelve 3/8-inch Grade 8 bolts. The frame was mounted to the shake table using eight 1/2-inch Grade 8 bolts.

DATE: 06/23/2022



Overall view of UUT-01

UUT-02 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28003-2201

Manufacturer: IEA, LLC

Product Line: RCC

Model Number: RCC1502S-AFC

Product Construction Summary:

Steel structure with inlet and outlet pipes

Options / Component Summary:

Carbon steel frame, stainless steel housing, and aluminum core

Note: The UUT was operational before and after shaking and was full of operating content during the tests. The structural integrity of the component attachment system and force-resisting systems was maintained.

UUT Properties

Operating Weight (lb)	Dimensions (inches)			Lowest Natural Frequency (Hz)		
	Depth	Width	Height	Front-Back	Side-Side	Vertical
1,100	66.4	36.0	81.0	8.2	4.7	27.4

Seismic Test Parameters

Building Code	Test Criteria	Sds (g)	z/h	Ip	Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2019	ICC-ES AC156	2.26	1.0	1.5	3.62	2.71	1.51	0.60

Unit Mounting Description: Each radiator was mounted to the manufacturer-provided steel frame with twelve 3/8-inch Grade 8 bolts. The frame was mounted to the shake table using six 5/8-inch Grade 8 bolts.

DATE: 06/23/2022



Overall view of UUT-02