

DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC	OFFICE USE ONLY
CERTIFICATION PREAPPROVAL (OSP)	APPLICATION #: OSP-0192
HCAI Special Seismic Certification Preapproval (OSP)	
Type: New X Renewal	
Manufacturer Information	
Manufacturer: IEA, LLC, an Engendren Corporation Subsidiary	
Manufacturer's Technical Representative: Rob Walsh	
Mailing Address: 9625 55th Street, Kenosha, WI 53144-7811	
Telephone: (262) 942-1414 Email: RWalsh@iearad.c	om
FORCODECOM	
Product Information	1s,
Product Name: Emergency and Standby Power Systems	1 the
Product Type: Remote Radiators	12
Product Model Number: See Attached OSP Product Summary	- m
General Description: HCR units are modular radiators consisting of a vary	ing number of individual cores and fans
Mounting Description: HCR units are rigidly mounted and ECC & EC units	are mounted with external isolators & snubbers,
Tested Seismic Enhancements: None	
Applicant Information	
Applicant Company Name: Dynamic Certification Laboratories	
Contact Person: Kelly Laplace	
Mailing Address: 1315 Greg Street, Sparks, NV 89431-6098	
Telephone: (775) 358-5085 Email: kelly@shaketest.c	om

Title: Business Manager



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OSP-0192

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DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

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 X ICC-ES AC156 IEEE 344 IEEE 693 NEBS 3
Other (Please Specify):
FORCODECO
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
O DATE: 11/07/2023
DATE: 11/07/2023
PNT STORES
BUILDING



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OSP-0192



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION FACILITIES DEVELOPMENT DIVISION

Seismic Parameters

Design Basis of Equipment or Components	(Fp/Wp) = 1.39 (rigid mount), 4.34 (spring isolated)
SDS (Design spectral response accel	eration at short period, g) = 1.93 (rigid mount),
ap (Amplification factor) =	1.0 (rigid mount), 2.5 (spring isolated)
R _p (Response modification factor) =	2.5 (rigid mount), 2.0 (spring isolated)
Ω_0 (System overstrength factor) =	2.0
lp (Importance factor) =	1.5
z/h (Height ratio factor) =	1
Natural frequencies (Hz) =	See Attachment
Overall dimensions and weight =	See Attachment
	NED FOR THE OLIDE
HCAI Approval (For Office Use Only) -	Approval Expires on 11/07/2029
Date: 11/7/2023	OSP-0192
Name: Mohammad Karim	Title: Supervisor, Health Facilities
Special Seismic Certification Valid Up to: S	DS (g) = See Above z/h = 1
Condition of Approval (if applicable):	DATE: 11/07/2023
	PRVIA BUILDING CODE: 201



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Special Seismic Certification Table 1 - Certified Component Matrix



Manufacturer: IEA

Product Line: HCR Modular Radiators, ECC S072, EC 100

Product Construction: Carbon Steel

HCR-Q072 HCR-Q108 HCR-Q058 HCRQ116 HCR-Q174 Rigidly floor mounted Interpolated Int	HCR-Q036 HCR-Q072 HCR-Q072 P2 75 126 4, 720 UUT-01 HCR-Q072 HCR-Q072 HCR-Q108 Rigidly floor mounted 92 75 128 6, 155 Interpolated HCR-Q058 HCR-Q176 Carbon Steel Carbon Steel 114 90 132 6, 950 Interpolated HCR-Q174 ECC-S072 Floor mounted with vibration isolator Steel 308 90 132 11, 400 UUT-03 BC-100 Floor mounted with vibration isolator BY: Mohammad Karim 98 124 153 9, 315 UUT-04	Madal	Manutina	Meterial		Dimensions (in)		Mainht (lb)	11
HCR-Q072 HCR-Q108 HCR-Q058 HCRQ116 HCR-Q174 ECC-S072 EC-100 Rigidly floor mounted Interpolated 164 75 128 6, 155 Interpolated HCR-Q058 HCRQ116 HCRQ174 Interpolated 114 90 132 6, 950 Interpolated HCR-Q174 90 132 9, 936 Interpolated 98 124 153 9, 315 UUT-04	HCR-Q072 HCR-Q108 Rigidly floor mounted Interpolated Interpolated HCR-Q058 HCRQ116 Rigidly floor mounted Interpolated <	wodei	Mounting	waterial	Length	Width	Height	weight (ib)	Unit
HCR-Q108 Rigidly floor mounted Rigidly floor mounted Image: Carbon Steel	HCR-Q108 Rigidly floor mounted Rigidly floor mounted Image: Carbon Steel Image: Carbon Steel	HCR-Q036		10		75	126	4, 720	UUT-01
HCR-Q058 Rigidly floor mounted Carbon Steel 114 90 132 6, 950 Interpolated HCR-Q174 Pice 90 132 9, 936 Interpolated ECC-S072 Floor mounted with vibration isolator Pice 308 90 132 7, 238 UUT-02 98 124 153 9, 315 UUT-04	HCR-Q058 Rigidly floor mounted Carbon Steel 114 90 132 6, 950 Interpolated HCR-Q174 Pice 90 132 9, 936 Interpolated ECC-S072 Floor mounted with vibration isolator Pice 308 90 132 7, 238 UUT-02 98 124 153 9, 315 UUT-04	HCR-Q072	7	OF C	164	75	128	6, 155	Interpolated
HCR-Q058 HCR-Q058 114 90 132 6, 950 Interpolated HCRQ116 212 90 132 9, 936 Interpolated HCR-Q174 308 90 132 11, 400 UUT-02 ECC-S072 Floor mounted with vibration isolator 98 124 153 9, 315 UUT-04 BY: Mohammad Karim BY: Mohammad Karim 0	HCR-Q058 HCR-Q058 114 90 132 6, 950 Interpolated HCRQ116 212 90 132 9, 936 Interpolated HCR-Q174 308 90 132 11, 400 UUT-02 ECC-S072 Floor mounted with vibration isolator 98 124 153 9, 315 UUT-04 BY: Mohammad Karim BY: Mohammad Karim 0	HCR-Q108	Piaidly floor mounted	L'EV	236		128	7, 590	Interpolated
HCRQ116 Processor Provide and the product of the p	HCRQ116 90 132 9,936 Interpolated HCRQ174 90 132 9,936 Interpolated ECC-S072 Floor mounted with vibration isolator 98 124 132 7,238 UUT-03 98 124 153 9,315 UUT-04	HCR-Q058		Carbon Steel		90	132	6, 950	Interpolated
ECC-S072 EC-100 Floor mounted with vibration isolator O SP-87192 119 132 7, 238 UUT-03 BY: Mohammad Karim 0 BY: Mohammad Karim 0 <td< td=""><td>ECC-S072 EC-100 Floor mounted with vibration isolator O SP-87192 119 132 7, 238 UUT-03 BY: Mohammad Karim 0 BY: Mohammad Karim 0 <td< td=""><td>HCRQ116</td><td></td><td>Carbon Steer</td><td>212</td><td>90</td><td>132</td><td>9, 936</td><td>Interpolated</td></td<></td></td<>	ECC-S072 EC-100 Floor mounted with vibration isolator O SP-87192 119 132 7, 238 UUT-03 BY: Mohammad Karim 0 BY: Mohammad Karim 0 <td< td=""><td>HCRQ116</td><td></td><td>Carbon Steer</td><td>212</td><td>90</td><td>132</td><td>9, 936</td><td>Interpolated</td></td<>	HCRQ116		Carbon Steer	212	90	132	9, 936	Interpolated
EC-100 Floor mounted with vibration isolator 98 124 153 9, 315 UUT-04 BY: Mohammad Karim 0	EC-100 Floor mounted with vibration isolator 98 124 153 9, 315 UUT-04 BY: Mohammad Karim 0	HCR-Q174				90	132	11, 400	UUT-02
EC-100 98 124 153 9, 315 UUT-04	EC-100 98 124 153 9, 315 UUT-04	ECC-S072	Eleor mounted with vibration isolator		JSP-187192	119	132	7, 238	UUT-03
		EC-100	Hoor mounted with vibration isolator		98	124	153	9, 315	UUT-04
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				THEORNIA B	UILDING	CODE			
				THE ORNIA B	UILDING	CODE			
				THEORNIA B	UILDING	CODE			

Special Seismic Certification Table 2 - Certified Subcomponents - HCR Modular Radiators



DCL Project No.: 28697-2301

Product Line: HCR Modular Radiators

Mounting configuration: Rigidly Floor Mounted

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

EP0034 EP0054 3 15 10 9 130 Extr EP0054 5 16 10 9 150 Extr EP014 5 16 10 9 150 Extr EP014 5 16 10 9 150 Extr EP0154 Type AEHH-8N EP0204 Type AEHH-8N 10 20 11 11 192 Extr EP0204 Type AEHH-8N EP0204 Type AEHH-8N Cast Iron 0 20 26 13 15 304 0 U30P2D NEMA Premium US Motors BY: Moham 30 28 15 17 486 0 W22 - NEMA Premium WEG Electric BY: Moham 30 28 13 14 325 0 0	Model Manufacturer Material HP Length Width Height Weight (b) UT EP0034 EP0054 5 10 9 130 Extrapolat EP054 EP0104 5 16 10 9 150 Extrapolat D154 Type AEHH-8N D154 Type AEHH-8N 7.5 18 11 11 192 Extrapolat D204 Type AEHH-8N D254 Type AEHH-8N 020 26 13 15 304 UUT-01 D304 Type AEHH-8N US Motors US Motors 30 28 15 17 429 Interpolat P2D NEMA Premium WEG Electric WEG Electric 30 28 13 14 325 UUT-02	Model Manufacturer Material HP Length Width Height Weight (b) UUT EP0034 EP0054 3 15 10 9 130 Extrapolat EP0754 EP0104 5 16 10 9 150 Extrapolat EP0154 Type AEHH-8N TECO Westinghouse Cast Iron 15 24 13 15 304 UUT-01 EP0254 Type AEHH-8N EP0304 Type AEHH-8N US Motors Cast Iron 20 26 13 15 304 UUT-01 U30P2D NEMA Premium US Motors BY Moham 30 28 15 17 486 UUT-02 W22 - NEMA Premium WEG Electric BY Moham 130 128 14 14 450 UUT-02									_
EP0034 EP0054 Solution Solution Height Hei	EP0034 EP0054 3 15 10 9 130 Extraplate EP0754 EP0104 5 16 10 9 150 Extraplate D154 Type AEHH-8N D254 Type AEHH-8N 0204 Type AEHH-8N 10 20 11 11 265 Extraplate D204 Type AEHH-8N D254 Type AEHH-8N 0304 Type AEHH-8N 30 28 15 17 429 Interpolate D204 Type AEHH-8N US Motors BY: Moham 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric BY: Moham 130 28 14 14 450 UUT-02	EP0034 Solution Ep0054 Solution Solution <th< th=""><th>Model</th><th>Manufacturer</th><th>Material</th><th>HP</th><th></th><th></th><th></th><th>Weight (lb)</th><th>UUT</th></th<>	Model	Manufacturer	Material	HP				Weight (lb)	UUT
EP0054 5 16 10 9 150 Extr EP0104 EP0104 10 20 11 11 192 Extr EP0154 Type AEHH-8N EP0204 Type AEHH-8N 16 10 20 11 11 265 Extr EP0204 Type AEHH-8N EP0254 Type AEHH-8N 20 26 13 15 304 0 U30P2D NEMA Premium US Motors US Motors BY: Mohan 30 28 13 14 325 0 W22 - NEMA Premium WEG Electric MEG Electric <	EP0054 5 16 10 9 150 Extrapolat EP0104 EP0104 EP0104 10 20 11 11 192 Extrapolat 0154 Type AEHH-8N 0204 Type AEHH-8N Cast Iron 15 24 13 15 304 UUT-01 0204 Type AEHH-8N 0254 Type AEHH-8N 0304 Type AEHH-8N 30 28 15 17 429 Interpolat 0304 Type AEHH-8N US Motors BY: Moham 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric BY: Moham 130 128 14 14 450 UUT-02	EP0054 5 16 10 9 150 Extrapolat EP0104 EP0104 TECO Westinghouse 7.5 18 11 11 192 Extrapolat EP0154 Type AEHH-8N EP0254 Type AEHH-8N 10 20 11 11 1265 Extrapolat EP0254 Type AEHH-8N EP0304 Type AEHH-8N EP0304 Type AEHH-8N 20 26 13 15 304 UUT-01 U30P2D NEMA Premium US Motors BY: Moham 30 28 15 17 486 UUT-02 W22 - NEMA Premium WEG Electric BY: Moham 130 128 14 14 450 UUT-02	550004		P ((DE			-		E (1)
EP7/54 7.5 18 11 11 192 Extr EP0104 EP0154 Type AEHH-8N EP0204 Type AEHH-8N 10 20 11 11 265 Extr EP0204 Type AEHH-8N EP0254 Type AEHH-8N 20 26 13 15 304 0 0 EP0304 Type AEHH-8N EP0304 Type AEHH-8N 0 20 26 13 15 344 Integration U30P2D NEMA Premium US Motors BY: Mohan 30 28 13 14 325 0 W22 - NEMA Premium WEG Electric EP0: Mohan 130 28 14 14 450 0	EP7/54 7.5 18 11 11 192 Extrapolat 0154 Type AEHH-8N 0154 Type AEHH-8N 0204 Type AEHH-8N 10 20 11 11 265 Extrapolat 0204 Type AEHH-8N 0254 Type AEHH-8N 0254 Type AEHH-8N 0252 27 13 15 344 Interpolat 0304 Type AEHH-8N 0304 Type AEHH-8N 030 28 15 17 429 Interpolat 0304 Type AEHH-8N 025 027 15 17 486 UUT-02 P2D NEMA Premium US Motors BY: Moham 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric 0 28 14 14 450 UUT-02	EP7/54 7.5 18 11 11 192 Extrapolat EP0104 EP0154 Type AEHH-8N EP0204 Type AEHH-8N 10 20 11 11 265 Extrapolat EP0204 Type AEHH-8N EP0254 Type AEHH-8N 15 24 13 15 304 UUT-01 EP0304 Type AEHH-8N EP0304 Type AEHH-8N EP0304 Type AEHH-8N 30 28 15 17 429 Interpolat U30P2D NEMA Premium US Motors BY: Moham 30 28 13 14 325 UUT-02 W22 - NEMA Premium WEG Electric BY: Moham 130 28 14 14 450 UUT-02		-	FUNC						
EP0104 TECO Westinghouse 10 20 11 11 265 Extr EP0154 Type AEHH-8N EP0204 Type AEHH-8N EP0204 Type AEHH-8N 15 24 13 15 304 U EP0204 Type AEHH-8N EP0204 Type AEHH-8N 20 26 13 15 344 Intel EP0204 Type AEHH-8N U30P2D NEMA Premium US Motors 30 28 15 17 429 Intel EP0204 Type AEHH-8N W22 - NEMA Premium WEG Electric BY: Moham 130 28 13 14 325 U	EP0104 TECO Westinghouse 10 20 11 11 265 Extrapolate 0154 Type AEHH-8N 0204 Type AEHH-8N 15 24 13 15 304 UUT-01 0204 Type AEHH-8N 0254 Type AEHH-8N 0254 Type AEHH-8N 20 26 13 15 344 Interpolate 0304 Type AEHH-8N 0304 Type AEHH-8N 030 28 15 17 429 Interpolate 0304 Type AEHH-8N 025 27 15 17 486 UUT-02 P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric BY: Moham 130 28 14 14 450 UUT-02	EP0104 TECO Westinghouse Cast Iron 10 20 11 11 265 Extrapolat EP0204 Type AEHH-8N EP0254 Type AEHH-8N EP0254 Type AEHH-8N 15 24 13 15 304 UUT-01 EP0204 Type AEHH-8N EP0254 Type AEHH-8N 20 26 13 15 344 Interpolat EP0304 Type AEHH-8N U30P2D NEMA Premium US Motors 30 28 15 17 429 Interpolat W22 - NEMA Premium WEG Electric BY: Moham 130 28 13 14 325 UUT-02		-							
EP0154 Type AEHH-8N TECO Westinghouse Cast Iron 15 24 13 15 304 U EP0204 Type AEHH-8N EP0254 Type AEHH-8N EP0304 Type AEHH-8N 0 20 26 13 15 344 Interest of the second secon	D154 Type AEHH-8N TECO Westinghouse Cast Iron 15 24 13 15 304 UUT-01 0204 Type AEHH-8N 0204 Type AEHH-8N 0254 Type AEHH-8N 0252 27 15 17 429 Interpolation 0304 Type AEHH-8N 0304 Type AEHH-8N 030 28 15 17 486 UUT-02 0304 Type AEHH-8N 025 0252 27 15 17 486 UUT-02 020 L25 L2 028 13 14 325 UUT-02 021 P2D NEMA Premium WEG Electric WEG Electric 000 18 128 14 14 450 UUT-02	EP0154 Type AEHH-8N TECO Westinghouse Cast Iron 15 24 13 15 304 UUT-01 EP0204 Type AEHH-8N EP0254 Type AEHH-8N EP0304 Type AEHH-8N 20 26 13 15 344 Interpolat EP0304 Type AEHH-8N EP0304 Type AEHH-8N 0 25 27 15 17 429 Interpolat U30P2D NEMA Premium US Motors BY: Moham 30 28 13 14 325 UUT-02 W22 - NEMA Premium WEG Electric BY: Moham 130 28 14 14 450 UUT-02		-							-
EP0204 Type AEHH-8N Cast Iron 20 26 13 15 344 Interest Interest EP0254 Type AEHH-8N EP0304 Type AEHH-8N 0 0 26 13 15 344 Interest EP0304 Type AEHH-8N 0 0 28 15 17 429 Interest U30P2D NEMA Premium US Motors 0 28 13 14 325 0 W22 - NEMA Premium WEG Electric 0 0 128 14 14 450 0	Cast Iron 20 26 13 15 344 Interpolation 0204 Type AEHH-8N 0254 Type AEHH-8N 0252 27 15 17 429 Interpolation 0304 Type AEHH-8N 030 28 15 17 486 UUT-02 P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric BY: Moham 130 14 14 450 UUT-02	EP0204 Type AEHH-8N Cast Iron 20 26 13 15 344 Interpolat EP0254 Type AEHH-8N EP0304 Type AEHH-8N 0 0 25 27 15 17 429 Interpolat U30P2D NEMA Premium US Motors 30 28 15 17 486 UUT-02 W22 - NEMA Premium WEG Electric BY: Moham 30 28 13 14 325 UUT-02		TECO Westinghouse							
EP0254 Type AEHH-8N OSP U25/2 27 15 17 429 Interview EP0304 Type AEHH-8N 30 28 15 17 486 U U30P2D NEMA Premium US Motors 30 28 13 14 325 U W22 - NEMA Premium WEG Electric BY: Moham 30 28 14 14 450 U	O254 Type AEHH-8N OSP U25/2 27 15 17 429 Interpolation 0304 Type AEHH-8N 30 28 15 17 486 UUT-02 P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric Media 100 14 450 UUT-02	EP0254 Type AEHH-8N OSP U25/2 27 15 17 429 Interpolat EP0304 Type AEHH-8N 30 28 15 17 486 UUT-02 U30P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 W22 - NEMA Premium WEG Electric Mago Karing 28 14 14 450 UUT-02		-	Cast Iron		(X, X, A,	1			
EP 0304 Type AEHH-8N 30 28 15 17 486 U U30P2D NEMA Premium US Motors 30 28 13 14 325 U W22 - NEMA Premium WEG Electric BY: Moham Mago Kallings 14 14 450 U	Digit Construction Digit C	EP0304 Type AEHH-8N IS IS <td></td> <td>- /4</td> <td></td> <td></td> <td>0004</td> <td></td> <td></td> <td></td> <td></td>		- /4			0004				
U30P2D NEMA Premium US Motors 30 28 13 14 325 U W22 - NEMA Premium WEG Electric BY: Moham 130 14 14 450 U	P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 22 - NEMA Premium WEG Electric BY: Moham 10 14 14 14 14 10 10	U30P2D NEMA Premium US Motors 30 28 13 14 325 UUT-02 W22 - NEMA Premium WEG Electric BY: Moham 130 14 14 450 UUT-02		-			1000				
W22 - NEMA Premium WEG Electric BY: Moham mago Karinga 14 14 450 U	22 - NEMA Premium WEG Electric DY: Moham Mago Karing 28 14 14 450 UUT-02	W22 - NEMA Premium WEG Electric BY: Moham mago Karinga 14 14 450 UUT-02				Charles all all all all all all all all all al					
					BV Moham	30	- KAZAZA/				
DATE: 11/07/2023	DATE: 11/07/2023	DATE: 11/07/2023	W22 - NEMA Premium	WEG Electric	DI. WOHAIII	112301/2	28	14	14	450	UUT-02
BUILDING				(Free states)	DATE: 11	/07/202	23	022			
					DATE: 11	DING	cont	2022			
					DATE: 11	DING	23 CODE	2202			

Special Seismic Certification Table 3 - Certified Subcomponents - HCR Modular Radiators (continued)



Special Seismic Certification Table 4 - Certified Subcomponents - ECC S072

DCL Project No.: 28697-2301

Product Line: ECC S072

Mounting configuration: Floor mounted with vibration isolator

			Fuel	Coolers					
Model	Manufacturer	Ма	terial	C	Dimensions	(in)		Weight (lb)	UUT
woder	Wanutacturer	Wia	terial	Depth	Wi	dth	Height		001
DH-326-211292	Thermal Transfer	Copper /	Aluminum R C C	UL 27	2	24	2	16	UUT-0
				WWWWWWWWWWWWWWWWWWWWWWWWWWWWWW					
			F.	ans					
Model	Manufacturer	Ma	terial	Diame	eter (in)		Wei	ght (lb)	UUT
15/10201	Truflo	Carbo	on Steel	8	34			431	UUT-0
		2	OSP-	0192	SI		•	•	
			Idler Shea	ave Bearing					
Model	Manufacturer	Ma	te <mark>ria</mark> Y: Mohamr	nad Karim ^{Diamet}	er (mm)		Wei	ght (lb)	UUT
5309-C	MRC	5210	0 Steel	2				5	UUT-0
			DATE 44	07/0000			•		
			DAIE. Misce	llaneous 23					
Model	Manufacturer	Material	Material	Description)imensions (i	n)	Weight (lb)	UUT
Woder	Manufacturer	Wateria	Wateria	Description	Depth	Width	Height	Weight (ib)	001
913-NLU-TD10-T	Cooper-Standard	Brass	Brass	Low Level Alarm Probe	4	2	2	<1	UUT-0
SM6-165-A	Isolation Dynamics	Stainless Steel	Stainless Steel	Pipe Isolators	2	3	2	<1	UUT-0
			VIA BUILI	DING					



luct Line: EC 100						
nting configuration: Floor n		ator				
t Level: Sds = 1.93g, z/h = 1.	0					
			Fuel Coolers			
Model	Manufacturer	Material	Dimensions (in)		Weight (lb)	UUT
DI 1000 4 4	The second Transfer	Ourse (Alersian	Depth Width	Height		
DH-326-1-1	Thermal Transfer	Copper / Aluminum	OR 25 CO 24	2	8	UUT-04
			Fans			
			Tails	<u>.</u>		
Model	Manufacturer	Material	Diameter (in)	Weig	jht (lb)	UUT
000 Class, Series 30SD	Moore Fan	Aluminum	OSP-01842	1	71	UUT-04
,		R		m		
			Fan Shaft Bearing			
Model	Manufaatuuan	BY	Mohammad Keimensions (in)		Mainh4 (lb)	UUT
Model	Manufacturer	Material	Depth Width	Height	Weight (lb)	001
USRBE5000-307	Moore Fan	Cast Iron		7	39	UUT-04
			Idler Sheave Bearing	V		
Model	Manufacturer	Material	Diameter (mm)	Weig	Jht (Ib)	UUT
5312-C	MRC	52100 Steel	2		6	UUT-04
			1 BUILDING COT			

Special Seismic Certification Table 5 - Certified Subcomponents - EC 100

DC Pr Mc Te



Special Seismic Certification Table 6 - Tested Units



Manufacturer: IEA

Product Line: HCR Modular Radiators, ECC S072, EC 100

Report Number: 88135-1001b

Product Construction: Carbon steel

Test Level: Sds=2.26, z/h=1.0 for UUT-01 and Sds = 1.93g, z/h = 1.0 for UUT-2 through UUT-04

Maria I.			DE	Dimensions (in)			
Model	Mounting	Material	Depth	Width	Height	Weight (lb)	Unit
HCR-Q036	Rigidly floor mounted		92	75	126	4, 720	UUT-0
HCR-Q174		Carbon Steel	308	90	132	11, 400	UUT-02
ECC-S072	Floor mounted with vibration isolator		87	119	132	7, 238	UUT-0
EC-100	r loor mounted with vioration isolator		98	124	153	9, 315	UUT-0
	22 O CALIFU	OSP-0 BY: Mohamn DATE: 11/0 PNIA BUILD	nad Karim				



UUT-01 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28697-2301

Manufacturer: IEA, LLC

Product Line: HCR Modular Radiators

Model Number: HCR Q036

Product Construction Summary:

Carbon steel structure with aluminum fins, copper tubes, aluminum fans and multi-voltage 15 HP electric motor

Options / Component Summary:

36 Square Foot Radiator, SR Coils, 6" Flange

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		Di	mensions (inches)		Lowest Natural Frequency (Hz)				
(lb)	Length	Wi	dth	Hei	ight	Front-Back	Side-Side	Vertical	
4,720	91.75	75	.00	125	5.50	5.0	5.8	23.3	
			Sei	smic Test Parame	ters				
Building Code	Test Criteria	Sds (g)	z/h		Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)	
CBC 2022	ICC-ES AC156	2.26	1.0	1.5 E	3.20	2.71	1.51	0.60	
Unit Mounting Dec	rintion. The unit we	s mounted to the	DCI provided sto	ol chako tablo into	rface frame at for	ir corpors through a	ach of the unit's log	cusing Grado 9	

Unit Mounting Description: The unit was mounted to the DCL-provided steel shake table interface frame at four corners through each of the unit's legs using Grade 8, 3/4-inch bolts (four bolts total).



UUT-02 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28697-2301

Manufacturer: IEA, LLC

Product Line: HCR Modular Radiators

Model Number: HCR Q174

Product Construction Summary:

Carbon steel structure with aluminum fins, copper tubes, aluminum fans and multi-voltage 30 HP electric motor

Options / Component Summary:

174 Square Foot Radiator, SR Coils, 6" Flange

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		[Dimensions (inches	s) Lowest Natural Frequency (Hz)				cy (Hz)
(lb)	(lb) Length		idth	H	eight	Front-Back	Side-Side	Vertical
11,400	307.75	90	0.00	13	31.75	11.5	8.2	24.8
			Seis	mic Test Paramet	ers	-		
Building Code	Test Criteria	Sds (g)	z/h D		Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)
CBC 2022	ICC-ES AC156	1.93	1.0	1.5	3.09	2.32	1.29	0.52

Unit Mounting Description: The unit was mounted to the SRMD Test Facility-provided steel shake table interface frame at twelve points through each of the unit's legs using Grade 8, 3/4-inch bolts (twelve total).



UUT-03 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28697-2301

Manufacturer: IEA, LLC

Product Line: ECC S072 (Stand-Alone Product)

Model Number: ECC S072

Product Construction Summary:

Carbon steel structure with aluminum fins, copper tubes, aluminum fan

Options / Component Summary:

Fuel Cooler, Fan, Fan Shaft Bearing, Idler Sheave Bearing, Low Level Alarm Probe, Pipe Isolators, and Vibration Isolators

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		I	Dimensions (inch	nes)	Lowes	Lowest Natural Frequency (Hz)						
Weight (lb)	Length	Wi	idth	Height	Front-Back	Side-Side	Vertical					
7,238	87.00	118	8.50	131.75	2.5	4.3	7.6					
	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 2022	ICC-ES AC156	1.93	1.0	1.5 0 3.09	2.32	1.29	0.52					

Unit Mounting Description: The unit was mounted at the base in six locations to vibration isolators supplied by CalDyne using Grade 8, 3/4-inch bolts. Four of the isolators were CalDyne model RJJEQ A-3040, mounted on the heavy side of the unit; two further from the center of gravity and two at the approximate mid-point of the unit. Two of the isolators were CalDyne model RJJEQ A-2120, mounted on the light side of the unit. The isolators were mounted to steel I-beams using a total of four (4) Grade 8, 5/8-inch bolts per isolator.



UUT-04 UNIT UNDER TEST (UUT) Summary Sheet



DCL Project Number: 28697-2301

Manufacturer: IEA, LLC

Product Line: EC 100 (Stand-Alone Product)

Model Number: EC 100

Product Construction Summary:

Carbon steel structure with aluminum fins, copper tubes, aluminum fan

Options / Component Summary:

Fuel Cooler, Fan, Fan Shaft Bearing, Idler Sheave Bearing, and Vibration Isolators

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		Dir	nensions (inches)		Lowest Natural Frequency (Hz)							
(lb)	Length	Wi	dth	Hei	ght	Front-Back	Side-Side	Vertical				
9,315	97.75	124	1.23	153	.00	4.3	5.1	13.7				
	Seismic Test Parameters											
Building Code	Test Criteria	Sds (g)	z/h		Aflx-H (g)	Arig-H (g)	Aflx-V (g)	Arig-V (g)				
CBC 2022	ICC-ES AC156	1.93	1.0 K	1.5	3.09	2.32	1.29	0.52				

Unit Mounting Description: The unit was mounted at the base in six locations to vibration isolators supplied by CalDyne using Grade 8, 3/4-inch bolts. Four of the isolators were CalDyne model RJJEQ D-4560, mounted on the heavy side of the unit; two further from the center of gravity and two approximately 1/3 of the distance from the heavy end of the unit. Two of the isolators were CalDyne model RJJEQ D-2403, mounted on the light side of the unit. The isolators were mounted to steel l-beams using a total of four (4) Grade 8, 7/8-inch bolts per isolator.

