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 - 0116-10

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

1.0

MCQUAY INTERNATIONAL
Manufacturer

NATHAN HATHAWAY
Manufacturer's Technical Representative

PO BOX 2510, STAUNTON, VA, 24402
Mailing Address

(540) 248-9492
Telephone

NATHAN.HATHAWAY@MCQUAY.COM
E-mail Address

2.0

WATER COOLED CHILLERS
Product Name

CHILLERS
Product Type

SEE ATTACHED
Product model No (List all unique product identification numbers and/or serial numbers)

General Description: RIGID BASE MOUNTED (may include thin Neoprene pads) WATER COOLED CHILLERS WITH WELDED STEEL EVAPORATOR AND CONDENSER VESSEL CONSTRUCTION. THE CHILLERS INCLUDE COMPRESSOR, MOTOR, VFD, AND CONTROLLERS

3.0

MAKEITRIGHT, INC.
Applicant Company Name

JOSEPH L. LA BRIE, SE
Contact Person

55 E. HUNTINGTON DR, SUITE 277, ARCADIA, CA., 91006
Mailing Address

626-445-0366
Telephone

labrie@makeitright.net
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

SEPTEMER 29, 2010
Date

PRESIDENT / CEO
Title

MAKEITRIGHT, INC
Company Name

Registered Design Professional Preparing the Report

4.0 **MAKEITRIGHT, INC.**

Company Name

JOSEPH L. LA BRIE, SE — S 3566

Contact Name — California License Number

55 E. HUNTINGTON DRIVE, #277, ARCADIA, CA., 91006

Mailing Address

626-445-0366 — labrie@makeitright.net

Telephone — E-mail Address

California Licensed Structural Engineer Review and Acceptance of the Report

5.0 MAKEITRIGHT, INC.

Company Name

JOSEPH L. LABRIE, SE — S 3566

Contact Name — California License Number

55 E. HUNTINGTON DRIVE, #277, ARCADIA, CA., 91006

Mailing Address

626-445-0366 — labrie@makeitright.net

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

70. ☒ *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

UUT1: Portland State University, iSTAR Lab
UUT2: UCSD: SRMD Test Facility

UUT1: Peter Dusicka, PhD
UUT2: Gianmario Benzoni Ph.D.

Company Name — Contact Name

UUT1: 1930 SW 4th Ave, Suite 200 Portland, OR 97201
UUT2: 9500 Gilman Drive, La Jolla, Ca., 92093

Mailing Address

UUT1: (503) 725-4275
UUT2: (858) 534-1432

UUT1: dusicka@pdx.edu
UUT2: benzoni@ucsd.edu

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) = 2.88g

S_{DS} (Spectral response acceleration at short period) =1.60g

a_p (In-structure equipment or component amplification factor) =2.5

R_p (Equipment or component response modification factor) =2.5

I_p (Importance factor) = 1.5

z/h (Height factor ratio)=1.0

Equipment or Component fundamental period(s) =SEE ATTACHED

Building period limits (if any) = NONE

Overall dimensions and weight (or range thereof) = SEE ATTACHED

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 (2 LAB REPORTS)* ☐ *Drawings* ☒ *Manufacturer's Catalog*

☐ *Calculations* ☐ *Others (Please Specify):*

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

9/30/10	**December 31, 2016**
Signature & Date	*Approval Expiration Date*
Chris Tokas, SHFR	S_{DS} (g) = **1.60** z/h = **1.0**
Name & Title	*Special Seismic Certification Valid Up to*

Condition of Approval (if any): **Approval is limited to Chillers with components listed in Pages # 5 through # 7.**

McQuay International

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Product Line and Model Numbers:

MODEL	TONAGE	UUT NUMBER	WEIGHT (lbs)	WIDTH (in)	HEIGHT (in)	LENGTH (in)	FUND. FREQ. (hz) frt to bck	side to side	vertical
WMC-145SSC E2209 / C2009	145 Ton	UUT-1	5,920	34.5	78.9	128.3	12.3	10.1	NOT DETERMINED
WDC 126 E4816 / C4816	2000 Ton	UUT-2	78,781	117.72	115.1	230.76	8.5	6.3	21.5

COMPONENT
MANUFACTURER: MC QUAY INTERNATIONAL

PRODUCT LINE	MODEL	LARGEST	SMALLEST	INCLUDED WITH TEST	MOUNT CONFIGURATION
EVAPORATOR	E2009		X	*	Base Mounted
	E2012			*	Base Mounted
	E2209			UUT-1	Base Mounted
	E2212			*	Base Mounted
	E2216			*	Base Mounted
	E2412			*	Base Mounted
	E2416			*	Base Mounted
	E2609			*	Base Mounted
	E2612			*	Base Mounted
	E2616			*	Base Mounted
	E3009			*	Base Mounted
	E3012			*	Base Mounted
	E3016			*	Base Mounted
	E3609			*	Base Mounted
	E3612			*	Base Mounted
	E3616			*	Base Mounted
	E3620			*	Base Mounted
	E4212			*	Base Mounted
	E4216			*	Base Mounted
	E4220			*	Base Mounted
	E4812			*	Base Mounted
	E4816	X		UUT-2	Base Mounted

* Interpolated

EVAPORATOR

COMPONENT
MANUFACTURER: MC QUAY INTERNATIONAL

PRODUCT LINE	MODEL	LARGEST	SMALLEST	INCLUDED WITH TEST	MOUNT CONFIGURATION
CONDENSER	C1809		X	*	Base Mounted
	C1812			*	Base Mounted
	C2009			UUT-1	Base Mounted
	C2012			*	Base Mounted
	C2209			*	Base Mounted
	C2212			*	Base Mounted
	C2216			*	Base Mounted
	C2416			*	Base Mounted
	C2609			*	Base Mounted
	C2612			*	Base Mounted
	C2616			*	Base Mounted
	C3009			*	Base Mounted
	C3012			*	Base Mounted
	C3016			*	Base Mounted
	C3612			*	Base Mounted
	C3616			*	Base Mounted
	C3620			*	Base Mounted
	C4212			*	Base Mounted
	C4216			*	Base Mounted
	C4220			*	Base Mounted
	C4812			*	Base Mounted
	C4816	X		UUT-2	Base Mounted

* Interpolated

McQuay International

makeitright™
hospital building design professionals

PRODUCT LINE	MODEL NUMBER	LARGEST	SMALLEST	MANUFACTURER	INCLUDED WITH TEST	MOUNT CONFIGURATION
COMPRESSORS	TT300		X	TURBOCOR	UUT-1	Mounted on Unit
	TT400			TURBOCOR	*	Mounted on Unit
	TT500			TURBOCOR	*	Mounted on Unit
	MBR 84S	X		MCQUAY INT	UUT-2	Mounted on Unit
OIL PUMP	**		X	**	UUT-1	**
	16"	X		MCQUAY INT	UUT-2	Mounted on Unit
UNIT CONTROLLER			X	CAREL	UUT-1	Mounted on Unit
		X		CAREL	UUT-2	Mounted on Unit
COMPRESSOR CONTROLLER			X	CAREL	UUT-1	Mounted on Unit
		X		CAREL	UUT-2	Mounted on Unit
MOTOR			X	RAM	UUT-1	Mounted on Unit
		X		RAM	UUT-2	Mounted on Unit
VFD			X	ROCKWELL AUTOMATION	UUT-1	Mounted on Unit
OITS (flat panel)			X	GVISION	UUT-1	Mounted on Unit
		X		GVISION	UUT-2	Mounted on Unit

* Interpolated

** Not Used

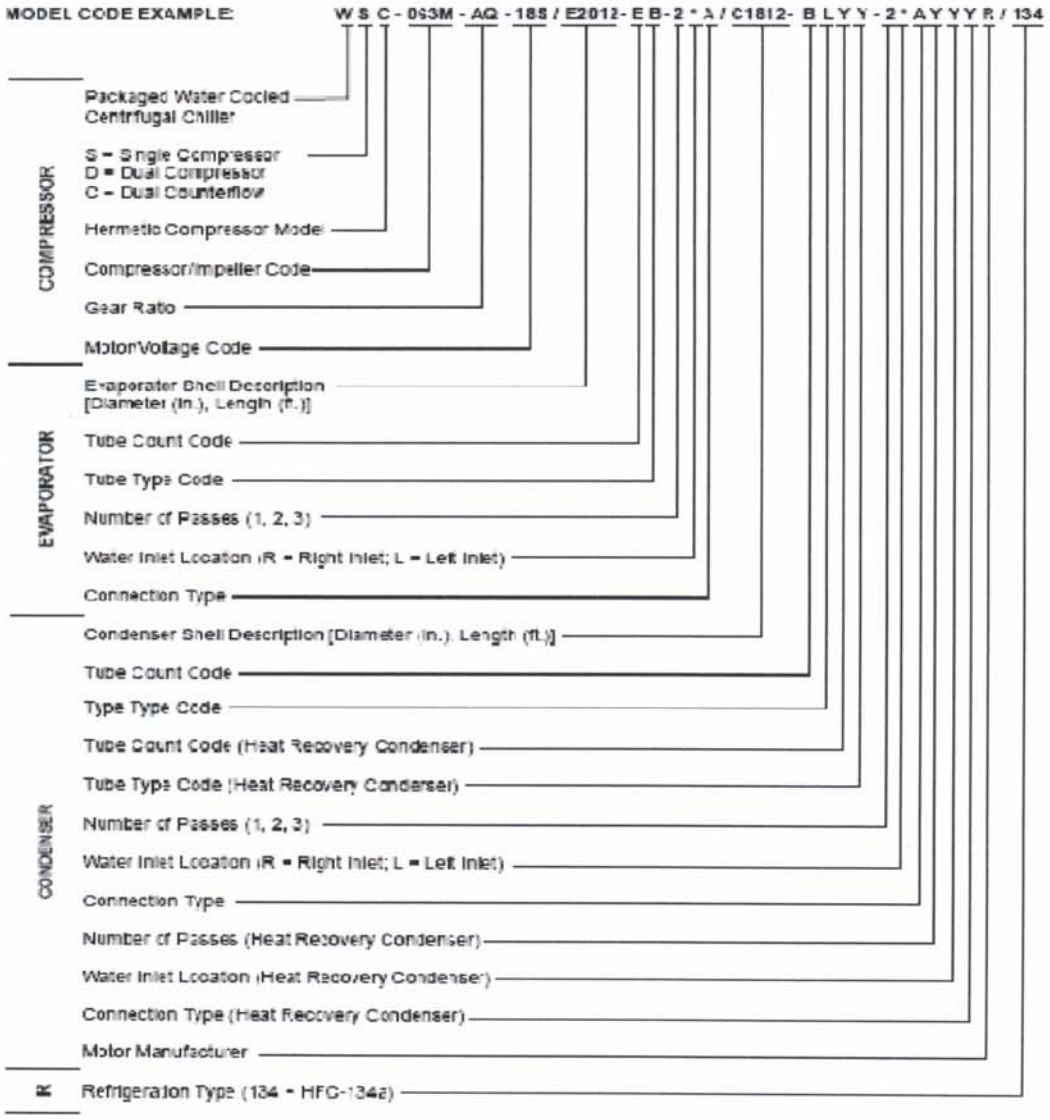
PRODUCT CODE:

Chiller Identification

To provide a wide range of components to match job requirements of capacity, efficiency and competitive initial cost, McQuay WSC, WDC and WCC centrifugal chillers are selected by computer and identified by their components.

The variations of compressor, impeller, gear ratio, evaporator and condenser tube surface and configuration provide over 1,000,000 combinations of standard components within the range of 200 to 2,700 tons. It is impractical to catalog all of these combinations. Therefore, computer selection for specific application conditions is required. The complete unit model code is then established as follows:

Figure 20, Chiller Identification



PRODUCT CODE:

Chiller Identification

Magnitude centrifugal chillers are selected by computer and identified by their components on the selection printout as a Model #. The unit model code is as follows:

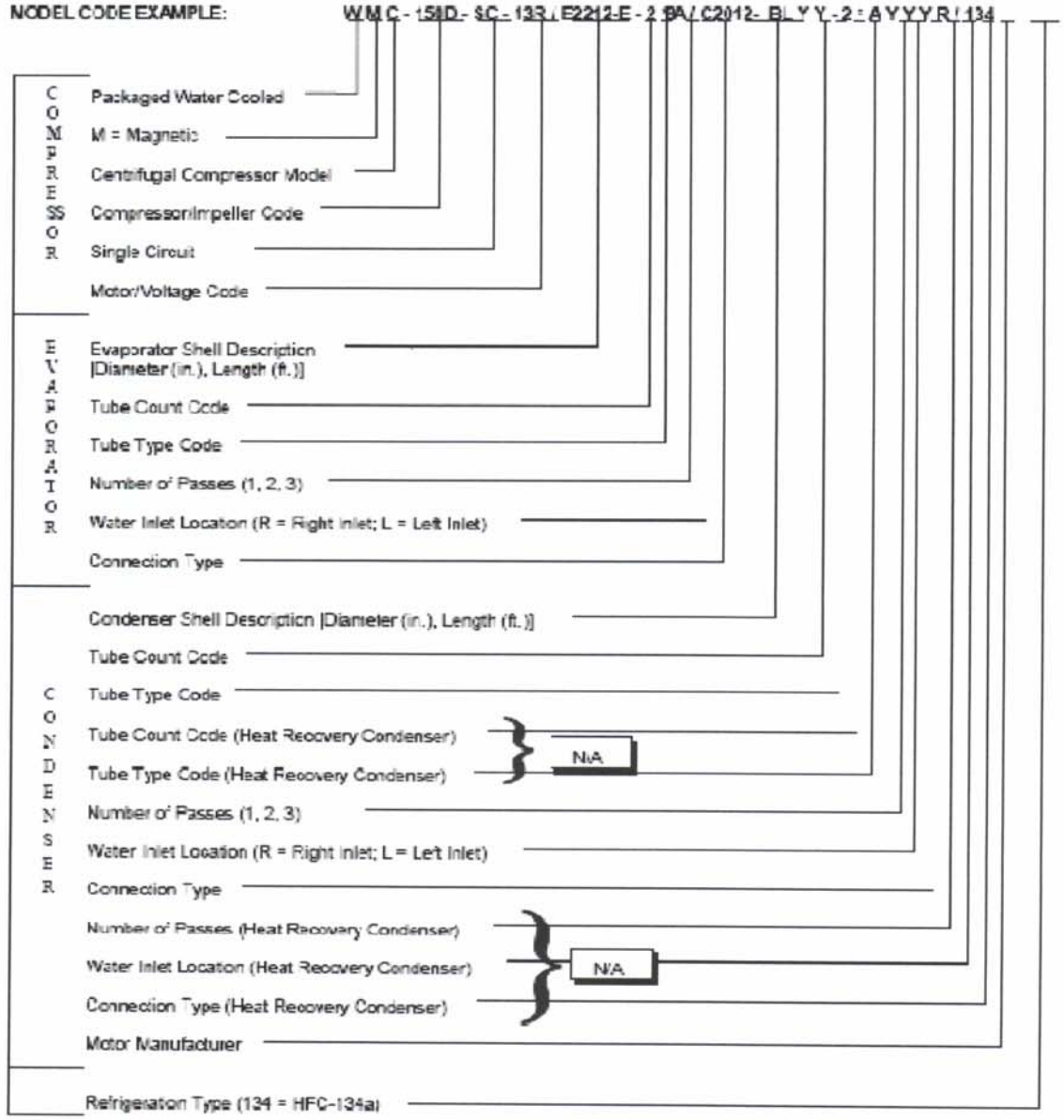



Figure 8, Chiller Identification