APPLICATION FOR OSHPD SPECIAL SEISMIC CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY	
APPLICATION #:	OSP – 0549 – 10

OSHPD Special Seismic Certification Preapproval (OSP)

Type: ☐ New ☒ Renewal

Manufacturer Information

Manufacturer: ait-deutschland GmbH

Manufacturer's Technical Representative: Markus Zobler

Mailing Address: Industriestrasse 3; 95359 Kasendorf

Telephone: +49-9228-9906-1580 Email: markus.zobler@ait-deutschland.eu

Product Information

Product Name: cBoxX 100 Compact Chiller and Chiller Interface Panel (CIP)

Product Type: Water Chiller

Product Model Number: See Attachment
(List all unique product identification numbers and/or part numbers)

General Description: Chiller system for cooling fluid using air cooled refrigerant

Mounting Description: Flexible floor mounted chiller and rigid wall mounting for CIP

Applicant Information

Applicant Company Name: W.E. Gundy & Associates, Inc.

Contact Person: Travis Soppe, SE

Mailing Address: 1199 Shoreline Drive, Suite 310, Boise, ID 83702

Telephone: (208) 342-5989 Ext 115 Email: tsoppe@wegai.com

I hereby agree to reimburse the Office of Statewide Health Planning and Development review fees in accordance with the California Administrative Code, 2016.

Signature of Applicant: Travis Soppe Date: 12-10-2018

Title: President Company Name: W.E. Gundy & Associates, Inc.

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

Company Name: W.E. Gundy & Associates, Inc.

Name: Travis Soppe, SE California License Number: S6115

Mailing Address: 1199 Shoreline Drive, Suite 310, Boise, ID 83702

Telephone: (208) 342-5898 Ext. 115 Email: tsoppe@wegai.com

Supports and Attachments Preapproval

☐ Supports and attachments are preapproved under OPM-
(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)

☒ Supports and attachments are not preapproved

Certification Method

☒ Testing in accordance with: ☒ ICC-ES AC156

☐ Other (Please Specify):

Testing Laboratory

Company Name: IABG mbH

Contact Name: Dr. Steffen Roedling

Mailing Address: Einsteinstrasse 20, Ottobrunn, Germany D-85521

Telephone: +49 (0) 89 / 6088-2052 Email: roedling@iabg.de

Seismic Parameters

Design in accordance with ASCE 7-10 Chapter 13: ☒ Yes ☐ No

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

S_{DS} (Design spectral response acceleration at short period, g) = 2.00 (z/h = 1); 2.50 (z/h = 0)

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

R_p (Equipment or component response modification factor) = See Attachment

Ω_0 (System overstrength factor) = See Attachment

I_p (Importance factor) = 1.5

z/h (Height factor ratio) = 1 (S_{DS} = 2.00); 0 (S_{DS} = 2.50)

Equipment or Component Natural Frequencies (Hz) = See Attachment

Overall dimensions and weight (or range thereof) = See Attachment

Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: ☐ Yes ☒ No

Design Basis of Equipment or Components (V/W) =

S_{DS} (Design spectral response acceleration at short period, g) =

S_{D1} (Design spectral response acceleration at 1 second period, g) =

R (Response modification coefficient) =

Ω_0 (System overstrength factor) =

C_d (Deflection amplification factor) =

I_p (Importance factor) = 1.5

Height to Center of Gravity above base =

Equipment or Component Natural Frequencies (Hz) =

Overall dimensions and weight (or range thereof) =

Tank(s) designed in accordance with ASME BPVC, 2015: ☐ Yes ☒ No

List of Attachments Supporting Special Seismic Certification

☒ Test Report(s) ☐ Drawings ☐ Calculations ☒ Manufacturer's Catalog

☒ Other(s) (Please Specify): Certified System Matrix, UUT Summary Sheets, Subcomponent Certification Letter

OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022

Signature: Date: July 15, 2019

Print Name: Timothy J. Piland Title: SSE

Special Seismic Certification Valid Up to : S_{DS} (g) = See Above z/h = See Above

Condition of Approval (if applicable):

KKT Chillers - AIT Deutschland GmbH
SPECIAL SEISMIC CERTIFICATION
CERTIFIED SYSTEM AND COMPONENTS

Manufacturer: KKT Chillers - AIT Deutschland GmbH

System: cBoxX 100 Compact Chiller System

System Component[1]	Siemens Part Number[4]	Dimensions (in)			Weight (lb)	Mounting	UUT
		Width	Depth	Height			
cBoxX 100[3]	909100-00469 909100-00469z	32.7"	72.4"	79.9"	1740[2]	flexible floor	UUT-1
Chiller Interface Panel (CIP)	909000.0107	13.6"	25.4"	52.2"	171	rigid wall	UUT-2

[1] All components are manufactured by AIT Deutschland GmbH unless noted. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-componenent within the tested units.

[2] Weight includes normal operating fluid used during seismic test.

[3] cBoxX100 shall include added base plate assembly (AIT drawing P6856-0020) to address anomolies observed during test.

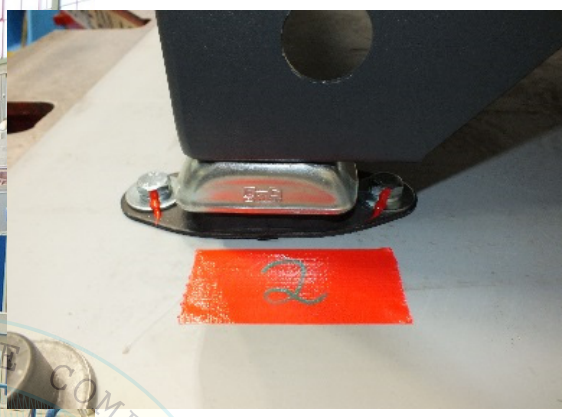
[4] The z designated system is identical to the tested system but uses a different cooling liquid (same density of tested cooling liquid).

SEISMIC CERTIFICATION LIMITS

System Component	Code	S_{DS} (g)	z / h	I_P	a_P	R_P	Ω_0	F_P / W_P
cBoxX 100	CBC 2016 ASCE 7-10	2.0	1.0	1.50	2.5	2.5	2.0	3.60
		2.5	0					1.50
Chiller Interface Panel (CIP)		2.0	1.0	1.50	2.5	6.0	2.0	1.50
		2.5	0					1.13

UUT-1	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. GUNDY & ASSOCIATES, INC. STRUCTURAL & EARTHQUAKE ENGINEERING

Mounting Details: Flexible floor mounted on 4 - AMC Mecanocaucho Marinelager S/N:136024 isolation devices. Each isolator connects to the UUT with one M16 Grade 8.8 bolt and mounts to the table with 2 - M12 Grade 8.8 bolts.



Manufacturer: KKT Chillers - AIT Deutschland GmbH

Component: cBoxX 100	**Model / Serial Number:**	909100-00469 / 91001235

UUT Function: Cools liquid using an air chilled refrigerant system

UUT Description: KKT Compact Chiller with 75kW net cooling capacity. Unit is floor mounted on vibration isolators as detailed above.

Test Location: IABG mbH, Germany	**Test Date:** September 2017

UUT PROPERTIES

Weight (lb)*	Dimensions (inches)			Natural Fequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,740	32.7"	72.4"	79.9"	4.5	2.6	7.9

*Weight includes normal operating fluid.

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Notes: [1] The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. [2] The unit maintained structural integrity during and after the ICC-ES AC156 Test. [3] Modification to the base of the unit (add base plates - AIT drawing #P6856-0020) are required to address anomolies observed during the test.

UUT-2	UNIT UNDER TEST (UUT) SUMMARY SHEET	WEGAI W.E. Gundy & Associates, Inc. Structural & Earthquake Engineering

Mounting Details: Rigid wall mounted with 3 - M8 Grade 8.8 bolts

Manufacturer: KKT Chillers - AIT Deutschland GmbH

Component: Chiller Interface Panel (CIP)	**Model / Serial Number:**	909000.0107 / Z910701

UUT Function: Serves as Chiller Interface and Fluid Line connection

UUT Description: Component of cBoxX 100 Chiller configuration. Contains pressure gauges, manual shut off valve, flow meter, and thermometer.

Test Location: IABG mbH, Germany	**Test Date:** September 2017

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Fequency (Hz)		
	Width	Depth	Height	FB	SS	V
171	13.6"	25.4"	52.2"	15.4	16.4	32.8

SEISMIC TEST PARAMETERS

Building Code / Test Criteria	S_{DS} (g)	z / h	I_P	A_{FLX-H} (g)	A_{RIG-H} (g)	A_{FLX-V} (g)	A_{RIG-V} (g)
CBC 2016 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: [1] The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. [2] The unit maintained structural integrity during and after the ICC-ES AC156 Test.