



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

APPLICATION FOR HCAI SPECIAL SEISMIC
CERTIFICATION PREAPPROVAL (OSP)

OFFICE USE ONLY

APPLICATION #: OSP-0792

HCAI Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: ABB - Branded for CAT

Manufacturer's Technical Representative: Dhirendra Tiwari

Mailing Address: 41 Woodford Ave, Plainville, CT 06062

Telephone: (860) 747-7935

Email: dhirendra.tiwari@us.abb.com

Product Information

Product Name: Emergency and Standby Power Systems

Product Type: Automatic Transfer Switches

Product Model Number: CX, CG(D), CS(D) ATS

General Description: Transfer switches that provide manual / automatic power switching from a primary source to a backup power source (30A to 1200A).

Mounting Description: Rigid, Floor/Wall Mounted

Tested Seismic Enhancements: None

Applicant Information

Applicant Company Name: WE Gundy & Associates, Inc

Contact Person: Travis Soppe

Mailing Address: PO Box 9121, Boise, ID 83707

Telephone: (208) 342-5989

Email: tsoppe@wegai.com

Title: President





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

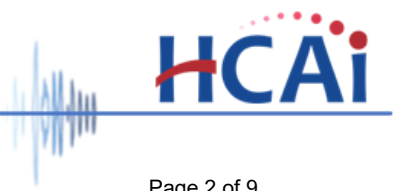
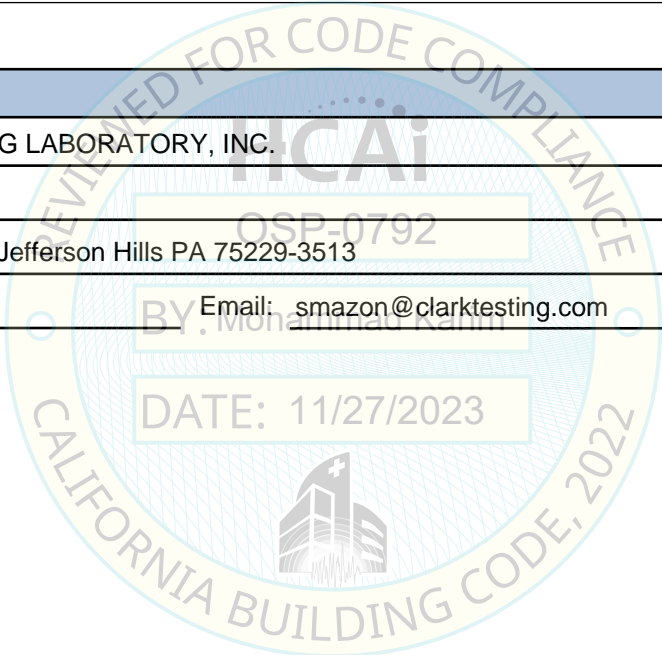
Company Name: W.E. GUNDY & ASSOCIATES INC.
Name: Travis Soppe California License Number: S6115
Mailing Address: P.O. Box 9121, Boise, ID 83707
Telephone: (208) 342-5989 Email: tsoppe@wegai.com

Certification Method

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

Testing Laboratory

Company Name: CLARK TESTING LABORATORY, INC.
Contact Person: Suzanne Mazon
Mailing Address: 1801 Route 51, Jefferson Hills PA 75229-3513
Telephone: (972) 247-9657 Email: smazon@clarktesting.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.5

SDS (Design spectral response acceleration at short period, g) = 2.0

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

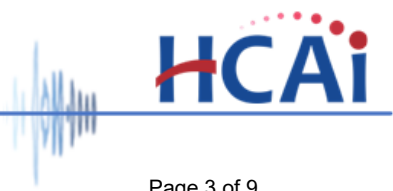
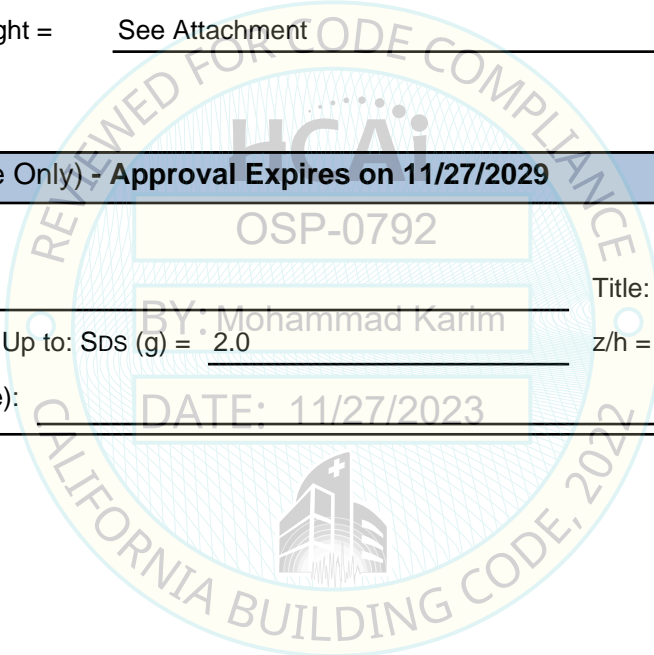
HCAI Approval (For Office Use Only) - Approval Expires on 11/27/2029

Date: 11/27/2023

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = 2.0 z/h = 1

Condition of Approval (if applicable): DATE: 11/27/2023



CATERPILLAR CX, CG(D), CS(D) AUTOMATIC TRANSFER SWITCHES WITH TruONE SPECIAL SEISMIC CERTIFICATION PRODUCT LINE MATRIX



ID Number ¹	Ampere Rating	Pole	NEMA Rating ²	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
				Width	Depth	Height		
TABLE 1: WALL MOUNTED ATS PRODUCT LINE - MAX $S_{DS} = 2.5$ at $z/h = 0$ and $S_{DS} = 2.0$ at $z/h = 1.0$								
CGOG3XX32	200	3	3R	24.0	12.3	32.0	96	UUT-1
CX, CG(D), CS(D) Series	30-200	2 / 3 / 4	1 / 3R / 4 / 12	24.0	12.0-12.3	32.0	95 - 125	interpolated
CX, CG(D), CS(D) Series	260	2 / 3 / 4	1 / 3R / 4 / 12	24.0	14.0-14.3	46.0	100-140	interpolated
CX, CG(D), CS(D) Series	400	2 / 3 / 4	1 / 3R / 4 / 12	24.0	14.0-14.3	46.0	105-142	interpolated
CGOK3SX12	400	4	1	24.0	14.0	46.0	142	UUT-2
TABLE 2: FLOOR MOUNTED ATS PRODUCT LINE - MAX $S_{DS} = 2.5$ at $z/h = 0$ and $S_{DS} = 2.0$ at $z/h = 1.0$								
CGOL3XX12	600	4	1	28.0	19.5	54.0	252	UUT-3
CX, CG(D), CS(D) Series	600	2 / 3 / 4	1 / 3R / 4 / 12	28.0	19.5-19.8	54.0	210 - 252	interpolated
CX, CG(D), CS(D) Series	800 - 1200	3 / 4	1 / 3R / 4 / 12	40.0	19.5-19.8	74.0	435 - 478	interpolated
CGDP3SX32	1200	4	3R	40.0	19.8	74.0	478	UUT-4

Notes:

¹ All components are manufactured by ABB and branded for Caterpillar. The part numbers listed uniquely identify the type of component, manufacturer, and material of construction for each sub-component within the tested units.

² Enclosures are constructed of welded carbon steel.

³ The CX/CG(D)/CS(D) series products are represented with the following ID numbers:

- CX - CXOxxxxxx
- CG(D) - CGOxxxxxx / CGDxxxxxx
- CS(D) - CSAOxxxxxx / CSADxxxxxx

⁴ The CX/CG(D)/CS(D) automatic transfer switches (ATS) are of nearly identical construction with minor control differences listed below:

- CXO - CX Open transition
- CGO - CG Open transition
- CGD - CG(D) Delay transition
- CSAO - CS Open transition
- CSAD - CS(D) Delay transition

CATERPILLAR CX, CG(D), CS(D) AUTOMATIC TRANSFER SWITCHES WITH TruONE SPECIAL SEISMIC CERTIFICATION SUBCOMPONENT MATRIX



Subcomponent ID Number ¹	Description	Manufacturer	General Dimensions (in)			Weight (lbs)	Representative UUT
			Width	Depth	Height		
Table 3: Automatic Transfer Switch Power Panel Assembly - Wall Mounted							
OXA200U3X2QB-ZE	200A 3-Pole open transition power panel	ABB	13.0	7.2	15.4	32	UUT-1
OXx260Uxxxxx-ZE	260A 2/3/4-Pole open/delay transition power panel	ABB	12.8-17.9	7.2-8.4	14.8-20.8	28 - 39	interpolated
OXx400Uxxxxx-ZE	400A 2/3/4-Pole open/delay transition power panel	ABB	15.1-20.2	7.2-8.4	14.8-20.8	32 - 52	interpolated
OXA400U3S3QB-ZE	400A 4-Pole open transition power panel	ABB	20.2	7.2	18.9	45	UUT-2
Table 4: Automatic Transfer Switch Power Panel Assembly - Floor Mounted							
OBX600U3S3QB-ZE	600A 4-Pole open transition power panel	ABB	17.6	8.4	18.9	45	UUT-3
OXx600Uxxxxx-ZE	600A 2/3/4-Pole open/delay transition power panel	ABB	15.1-20.2	7.2-8.4	14.8-20.8	32 - 52	interpolated
OXx800-1200Uxxxxx-ZE	800-1200A 3/4-Pole open/delay transition power panel	ABB	23.5-28.1	7.2-8.4	14.1-20.9	95 - 127	interpolated
OXA1200U3S3QB-ZE	1200A 4-Pole delay transition power panel	ABB	28.0	8.4	19.2	127	UUT-4
Table 5: Electrical Panel / Controller Components - Wall / Floor Mounted							
OXAMI1-L3	Open transition Level 3 HMI	ABB	4.0	0.8	6.5	2.0	UUT-1, 3
OXAMI1-L2	Open transition Level 2 HMI	ABB	4.0	0.8	6.5	2.0	interpolated
OXBMI1-L3	Delay transition Level 3 HMI	ABB	4.0	0.8	6.5	2.0	interpolated
OXBMI1-L4	Delay transition Level 4 HMI	ABB	4.0	0.8	6.5	2.0	interpolated
OXAMI1-L4	Open transition Level 4 HMI	ABB	4.0	0.8	6.5	2.0	UUT-2, 4

Notes:
¹ The "xxxx" designation at the end of the model number provides differences in control software for the power panels.

UUT-1

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with 4 - 3/8" grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: CX, CG(D), CS(D) Automatic Transfer Switch

Component ID: CGOG3XX32
(ZGOG3XX32)

Test Report Component ID: OXA200U3X2QB-ZE*

UUT Function: Manual/Automatic power switching from utility power to emergency power.

UUT Description: 200A 3-Pole Automatic Transfer Switch with OXA200U3X2QB-ZE Power Panel, OXAMI1-L2 open transition level 3 HMI controller, and NEMA 3R enclosure.

Test Location: Clark Dynamic Test Laboratory, Inc., PA

Test Date: April-May 2019

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
96	24.0	12.3	32.0	N/A	N/A	N/A

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. *The lab report identified the system using the internal component number not the complete system component identification number. The UUT is manufactured by ABB and branded Caterpillar. The first digits of the ID are "ZT" for ABB and this is changed to "C" for the branded Caterpillar product.

UUT-2

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid wall mounted with 4 - 1/2" grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: CX, CG(D), CS(D) Automatic Transfer Switch

Component ID: CGOK3SX12
(ZGOK3SX12)

Test Report Component ID: OXA400U3S3QB-ZE*

UUT Function: Manual/Automatic power switching from utility power to emergency power.

UUT Description: 400A 4-Pole Automatic Transfer Switch with OXA400U3S3QB-ZE Power Panel, OXAMI1-L4 open transition level 3 HMI controller, and NEMA 1 enclosure.

Test Location: Clark Dynamic Test Laboratory, Inc., PA

Test Date: April-May 2019

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
142	24.0	14.0	46.0	N/A	N/A	N/A

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. *The lab report identified the system using the internal component number not the complete system component identification number. The UUT is manufactured by ABB and branded Caterpillar. The first digits of the ID are "ZT" for ABB and this is changed to "C" for the branded Caterpillar product.

UUT-3

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with 4 - 1/2" grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: CX, CG(D), CS(D) Automatic Transfer Switch

Component ID: CGOL3XX12
(ZGOL3XX12)

Test Report Component ID: OBX600U3S3QB-ZE*

UUT Function: Manual/Automatic power switching from utility power to emergency power.

UUT Description: 600A 4-Pole Automatic Transfer Switch with OBX600U3S3QB-ZE Power Panel, OXAMI1-L3 open transition level 3 HMI controller, and NEMA 1 enclosure.

Test Location: Clark Dynamic Test Laboratory, Inc., PA

Test Date: April-May 2019

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
252	28.0	19.5	54.0	25.7	18.5	>33

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. *The lab report identified the system using the internal component number not the complete system component identification number. The UUT is manufactured by ABB and branded Caterpillar. The first digits of the ID are "ZT" for ABB and this is changed to "C" for the branded Caterpillar product.

UUT-4

**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mounted with 4 - 1/2" grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: CX, CG(D), CS(D) Automatic Transfer Switch

Component ID: CGDP3SX32
(ZGDP3SX32)

Test Report Component ID: OXA1200U3S3QB-ZE*

UUT Function: Manual/Automatic power switching from utility power to emergency power.

UUT Description: 1200A 4-Pole Automatic Transfer Switch with OXA1200U3S3QB-ZE Power Panel, OXAMI1-L4 open transition level 4 HMI controller, and NEMA 3R enclosure.

Test Location: Clark Dynamic Test Laboratory, Inc., PA

Test Date: April-May 2019

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
478	40.0	19.8	74.0	25.7	13.8	>33

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 2022 / ICC-ES AC156	2.00	1.0	1.5	3.20	2.40		
	2.50	0.0	1.5			1.67	0.67

Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. *The lab report identified the system using the internal component number not the complete system component identification number. The UUT is manufactured by ABB and branded Caterpillar. The first digits of the ID are "ZT" for ABB and this is changed to "C" for the branded Caterpillar product.