



DEPARTMENT OF HEALTH CARE ACCESS AND INFORMATION
FACILITIES DEVELOPMENT DIVISION

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

OFFICE USE ONLY

APPLICATION #: OSP-0791

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: See certified produce line matrices

General Description: Automatic and By-pass Transfer Switches, which are manual, automatic, or a combination of both.

Mounting Description: Rigid, Floor Mounted

Tested Seismic Enhancements: Seismic enhancements made to the test units and/or modifications required to address anomalies during the tests shall be incorporated into the production units.

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



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

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): _____

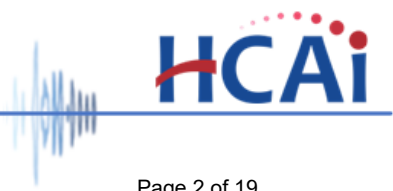
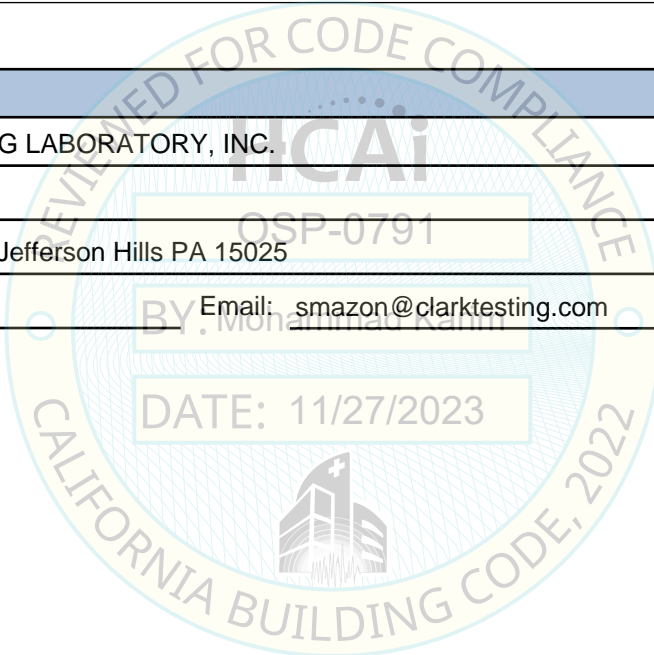
Testing Laboratory

Company Name: CLARK TESTING LABORATORY, INC.

Contact Person: Suzanne Mazon

Mailing Address: 1801 Route 51, Jefferson Hills PA 15025

Telephone: (412) 387-1001 Email: smazon@clarktesting.com





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

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

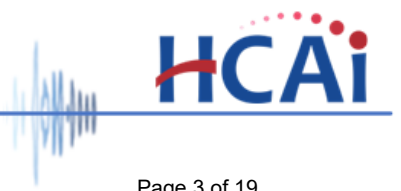
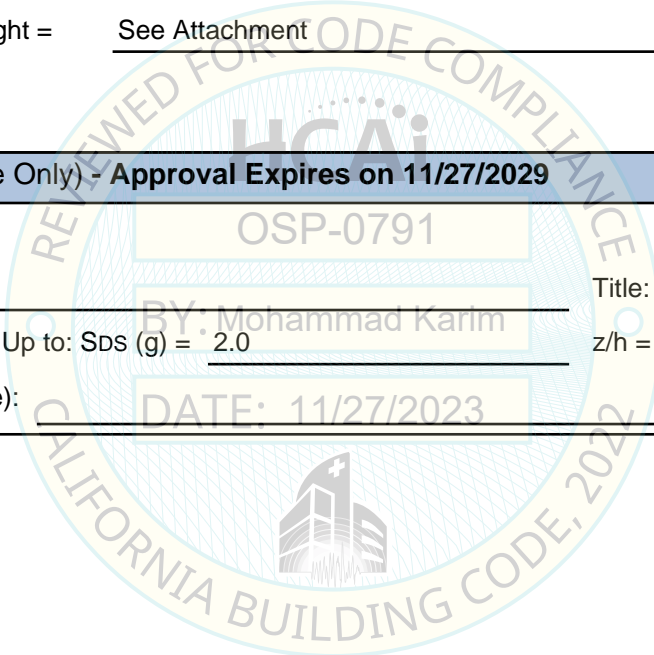
HCAI Approval (For Office Use Only) - Approval Expires on 11/27/2029

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 HORIZONTAL BYPASS TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX

TABLE 1



ID Number ¹	Ampere Rating	Frame Size ²	Pole	NEMA Rating	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
					Width	Depth	Height		
CBTS-B1-1200	1200	64B	3	1	42.0	36.0	80.0	1334	UUT _x -5
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-600	600	64B	3 / 4	1	39.0 - 42.0	36.0	80.0	1335 - 1640	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-800	800	64B	3 / 4	1	39.0 - 42.0	36.0	80.0	1335 - 1640	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-1000	1000	64B	3 / 4	1	39.0 - 42.0	36.0	80.0	1335 - 1640	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-1200	1200	64B	3 / 4	1	39.0 - 42.0	36.0	80.0	1335 - 1640	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-1600	1600	65B	3 / 4	1	40.0 - 46.1	64.6	80.0	4453 - 5750	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-2000	2000	65B	3 / 4	1	40.0 - 46.1	64.6	80.0	4454 - 5750	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-2600	2600	65B	3 / 4	1	40.0 - 46.1	64.6	80.0	4455 - 5750	interpolated
CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C-3000	3000	65B	3 / 4	1	40.0 - 46.1	64.6	80.0	4456 - 5750	interpolated
CBTS-B1-3000	3000	65B	4	1	46.1	64.6	80.0	5747	UUT _x -6

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. The CBTS-B1/CBTSD-B1/CBTSCT-B1/C30/C3D/C3C Horizontal Bypass transfer switches are of nearly identical construction and have minor control differences listed below.

² Enclosures are constructed of bolted and welded carbon steel.

³ Subscript indicates the test report in which the units were qualified:
x - T4761

CBT AND C3 - Horizontal Bypass Switch Models

- CBTS-B1 - Open Transition with MX250 Controller
- CBTSD-B1 - Delay Transition with MX250 Controller
- CBTSCT-B1 - Closed Transition with MX250 Controller
- C30 - Open Transition with MX350 Controller
- C3D - Delay Transition with MX350 Controller
- C3C - Closed Transition with MX350 Controller

CATERPILLAR VERTICAL BYPASS TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX

TABLE 2



ID Number ¹	Ampere Rating	Frame Size ²	Pole	NEMA Rating	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
					Width	Depth	Height		
CBTS-B0/CBTSD-B0/C20/C2D/C2C-100 to 400	100 - 400	F14C	3 / 4	1, 3R, 4, 12	30.0	28.5	86.0	770 - 875	extrapolated
CBTS-B0-400	400	F14C	3	1	30.0	28.5	86.0	875	UUT _w -3
CBTSCT-B0-100 to 400	100 - 400	64B	3 / 4	1, 3R, 4, 12	36.0 - 40.0	28.3	90.0	1220 - 1385	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-600	600	64B	3 / 4	1, 3R, 4, 12	36.0 - 40.0	28.3	90.0	1220 - 1385	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-800	800	64B	3 / 4	1, 3R, 4, 12	40.0 - 46.0	28.3	90.0	1355 - 1640	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-1000	1000	64B	3 / 4	1, 3R, 4, 12	40.0 - 46.0	28.3	90.0	1355 - 1640	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-1200	1200	64B	3 / 4	1, 3R, 4, 12	40.0 - 46.0	28.3	90.0	1355 - 1640	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-1600	1600	65B	3 / 4	1, 3R, 4, 12	40.6 - 46.1	64.6	80.0	4044 - 4431	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-2000	2000	65B	3 / 4	1, 3R, 4, 12	40.6 - 46.1	64.6	80.0	4044 - 4431	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-2600	2600	65B	3 / 4	1, 3R, 4, 12	40.6 - 46.1	64.6	80.0	4044 - 4431	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-3000	3000	65B	3 / 4	1, 3R, 4, 12	40.6 - 46.1	64.6	80.0	4456 - 5750	interpolated
CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C-4000	4000	65B	3 / 4	1, 3R, 4, 12	47.5 - 54.0	81.0	90.0	4660 - 6400	interpolated
CBTS-B0-4000	4000	65B	4	3R, 4, 12	54.0	81.0	90.0	6406	UUT _z -6

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. The CBTS-B0/CBTSD-B0/CBTSCT-B0/C20/C2D/C2C Vertical Bypass transfer switches are of nearly identical construction with minor control differences listed below.

2 Enclosures are constructed of bolted and welded carbon steel.

3 Subscript indicates the test report in which the units were qualified:

w - T4343, z - JID: 19-01143-1

CBT AND C2 - Vertical Bypass Switch Models

- CBTS-B0 - Open Transition with MX250 Controller
- CBTSD-B0 - Delay Transition with MX250 Controller
- CBTSCT-B0 - Closed Transition with MX250 Controller
- C20 - Open Transition with MX350 Controller
- C2D - Delay Transition with MX350 Controller
- C2C - Closed Transition with MX350 Controller

CATERPILLAR AUTOMATIC TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX

TABLE 3



ID Number ¹	Ampere Rating	Frame Size ²	Pole	NEMA Rating	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
					Width	Depth	Height		
CTG-A0/CTGD-A0-600	600	F14	2 / 3 / 4	1, 3R, 4, 12	24.0	20.0	69.0	214 - 265	extrpolated
CTG-A0-600	600	F14	3	1	24.0	20.0	69.0	265	UUT _w -1
CSAC-040	400	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	410 - 538	interpolated
CSAC-060	600	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	410 - 538	interpolated
CSAC-060	600	63L	4	1	40.0	20.0	74.0	538	UUT _v -1
CTG-A0/CTGD-A0-800	800	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	460 - 490	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C1O/C1D/C1C-800	800	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	455 - 560	interpolated
CSAC-080	800	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	460 - 560	interpolated
CTG-A0/CTGD-A0-1000	1000	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	475 - 560	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C1O/C1D/C1C-1000	1000	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	455 - 560	interpolated
CSAC-100	1000	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	500 - 590	interpolated
CTG-A0/CTGD-A0-1200	1200	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	475 - 560	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C1O/C1D/C1C-1200	1200	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	455 - 560	interpolated
CSAC-120	1200	63L	2 / 3 / 4	1, 3R, 4, 12	40.0	20.0	74.0	500 - 590	interpolated
CT3-1000	1000	40LA	3	1	36.5	23.5	90.0	917	UUT _y -1
CT3-1000	1000	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5	90.0	867-1062	interpolated

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 bolted and welded carbon steel.

³ The transfer switches are of nearly identical construction with minor control differences listed to right.

⁴ Subscript indicates the test report in which the units were qualified:
v - 21-00870 Rev.0, w - T4343, y - JID: 5050

CT and C1 - Transfer Switch Models
 -CTG-A0/A4 - Open Transition, MX150 Controller
 -CTGD-A0/A4 - Delay Transition, MX150 Controller
 -CTS-B0/B4 - Open Transition, MX250 Controller
 -CTSD-B0/B4 - Delay Transition, MX250 Controller
 -CTSCT-B0/B4 - Closed Transition, MX250 Controller

CS and CG - Transfer Switch Models
 -CSAO - Open Transition, OXCO1 Controller
 -CSAD - Delay Transition, OXCO1 Controller
 -CSAC - Closed Transition, OXCO1 Controller
 -CGAO - Open Transition, OXCO1 Controller
 -CGAD - Delay Transition, OXCO1 Controller

C1O/C4O - Open Transition, MX350 Controller
 C1D/C4D - Delay Transition, MX350 Controller
 C1C/C4C - Closed Transition, MX350 Controller

CATERPILLAR AUTOMATIC TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX

TABLE 3



ID Number ¹	Ampere Rating	Frame Size ²	Pole	NEMA Rating	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
					Width	Depth	Height		
CT3-1200	1200	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5	90.0	867-1062	interpolated
CT3-1600	1600	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5	90.0	867-1062	interpolated
CTG-A4/CTGD-A4-1600	1600	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C10/C1D/C1C-1600	1600	65L	2 / 3 / 4	1	36.0	48.0	90.0	1010 - 1190	interpolated
CTS-B4/CTSD-B4/CTSCT-B4/C40/C4D/C4C-1600	1600	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CGAO/CGAD-160	1600	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CSAO/CSAD/CSAC-160	1600	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CTG-A4/CTGD-A4-2000	2000	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C10/C1D/C1C-2000	2000	65L	2 / 3 / 4	1	36.0	48.0	90.0	1010 - 1190	interpolated
CT3-2000	2000	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5	90.0	867-1062	interpolated
CTS-B4/CTSD-B4/CTSCT-B4/C40/C4D/C4C-2000	2000	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CGAO/CGAD-200	2000	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CSAO/CSAD/CSAC-200	2000	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CTG-A4/CTGD-A4-2600	2600	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CT3-2600	2600	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5-53.5	90.0	950-1430	interpolated
CGAO/CGAD-260	2600	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated

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 bolted and welded carbon steel.

³ The transfer switches are of nearly identical construction with minor control differences listed to right.

⁴ Subscript indicates the test report in which the units were qualified:
v - 21-00870 Rev.0, w - T4343, y - JID: 5050

CT and C1 - Transfer Switch Models

- CTG-A0/A4 - Open Transition, MX150 Controller
- CTGD-A0/A4 - Delay Transition, MX150 Controller
- CTS-B0/B4 - Open Transition, MX250 Controller
- CTSD-B0/B4 - Delay Transition, MX250 Controller
- CTSCT-B0/B4 - Closed Transition, MX250 Controller
- C10/C40 - Open Transition, MX350 Controller
- C1D/C4D - Delay Transition, MX350 Controller
- C1C/C4C - Closed Transition, MX350 Controller

CS and CG - Transfer Switch Models

- CSAO - Open Transition, OXCO1 Controller
- CSAD - Delay Transition, OXCO1 Controller
- CSAC - Closed Transition, OXCO1 Controller
- CGAO - Open Transition, OXCO1 Controller
- CGAD - Delay Transition, OXCO1 Controller

CATERPILLAR AUTOMATIC TRANSFER SWITCH CERTIFIED PRODUCT LINE MATRIX

TABLE 3



ID Number ¹	Ampere Rating	Frame Size ²	Pole	NEMA Rating	Enclosure Dimensions (in)			Service Weight (lbs)	Representative UUT
					Width	Depth	Height		
CSAO/CSAD/CSAC-260	2600	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CTG-A4/CTGD-A4-3000	3000	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CT3-3000	3000	40LA	2 / 3 / 4	1, 3R, 4, 12	36.5-38.8	23.5-53.5	90.0	950-1430	interpolated
CT3-3000	3000	40LA	4	3R, 4, 12	38.8	41.5	90.0	1295	UUT _y -2
CTS-B0/CTSD-B0/CTSCT-B0/C10/C1D/C1C-3000	3000	65L	2 / 3 / 4	1	36.0	48.0	90.0	1130 - 1415	interpolated
CTS-B4/CTSD-B4/CTSCT-B4/C40/C4D/C4C-3000	3000	65L	2 / 3 / 4	1, 3R, 4, 12	35.5-37.5	48.0-49.0	90.0	1010 - 1480	interpolated
CGAO/CGAD-300	3000	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CSAO/CSAD/CSAC-300	3000	R5	3 / 4	1, 3R, 4, 12	36.0	48.0	90.0	1375 - 1540	interpolated
CTS-B0/CTSD-B0/CTSCT-B0/C10/C1D/C1C-4000	4000	65L	2 / 3 / 4	1	46.0	60.0	90.0	1595 - 2100	interpolated
CTS-B0-4000	4000	65L	4	1	46.0	60.0	90.0	2100	UUT _w -2

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 bolted and welded carbon steel.

³ The transfer switches are of nearly identical construction with minor control differences listed to right.

⁴ Subscript indicates the test report in which the units were qualified:
v - 21-00870 Rev.0, w - T4343, y - JID: 5050

CT and C1 - Transfer Switch Models
 -CTG-A0/A4 - Open Transition, MX150 Controller
 -CTGD-A0/A4 - Delay Transition, MX150 Controller
 -CTS-B0/B4 - Open Transition, MX250 Controller
 -CTSD-B0/B4 - Delay Transition, MX250 Controller
 -CTSCT-B0/B4 - Closed Transition, MX250 Controller
 -C10/C40 - Open Transition, MX350 Controller
 -C1D/C4D - Delay Transition, MX350 Controller
 -C1C/C4C - Closed Transition, MX350 Controller

CS and CG - Transfer Switch Models
 -CSAO - Open Transition, OXCO1 Controller
 -CSAD - Delay Transition, OXCO1 Controller
 -CSAC - Closed Transition, OXCO1 Controller
 -CGAO - Open Transition, OXCO1 Controller
 -CGAD - Delay Transition, OXCO1 Controller

**CATERPILLAR AUTOMATIC AND BYPASS TRANSFER SWITCH
CERTIFIED SUBCOMPONENT MATRIX**

TABLE 4



Subcomponent ID Number	Description	Manufacturer	General Dimensions (in)			Weight (lbs)	Representative UUT
			Width	Depth	Height		
Automatic Transfer Switch Power Panel Assembly							
50C-2034-600	600A ZTG-A0	ABB	25.2	12.0	36.3	80	UUT _w -1
50C-1100-600	600 ZSAC	ABB	25.2	12.0	36.3	230	UUT _v -1
50C-1100-400/1200	400-1200A ZSAC-OXCO1	ABB	21.6-27.4	12.0	36.3	230-250	interpolated
50C-1050-1600/3000	1600-3000A ZTG-A4/ZTGD-A4 1600-3000A ZTS-B4/ZTSD-B4/ZTSCT-B4/Z4O/Z4D/Z4C 1600-3000A ZGAO/ZGAD/ZSAO/ZSAD/ZSAC-OXCO1	ABB	32.3	34.1	25.3	410-463	interpolated
23C-4001-1000/3000	1000-3000A ZT3	ABB	28.9	14.6	28.6	450	UUT _y -1/UUT _y -2
50C-2005-1600/3000	1600-3000A ZTG-A0/ZTGD-A0 1600-3000A ZTS-B0/ZTSD-B0/ZTSCT-B0/Z1O/Z1D/Z1C	ABB	24.8-30.3	28.6	30.5	365-690	interpolated
50C-2030-4000	4000A ZTS-B0/ZTSD-B0/ZTSCT-B0/Z1O/Z1D/Z1C	ABB	32.3-38.8	31.6	30.5	820-1045	interpolated
50C-2030-4000	4000A ZTS-B0	ABB	38.8	31.6	30.5	1045	UUT _w -2
Vertical Bypass Power Panel Assembly							
50C-2036-100/400	100-400A ZBTS-B0/ZBTSD-B0/ZBTSCT-B0 100-400A Z20/Z2D/Z2C	ABB	25.2	28.0	45.3	310-380	extrapolated
50C-2036-400	400A ZBTS-B0	ABB	25.2	28.0	45.3	380	UUT _w -3
50C-2022-600/1200	600-1200A ZBTS-B0/ZBTSD-B0/ZBTSCT-B0 600-1200A Z20/Z2D/Z2C	ABB	31.8-37.4	26.4	69.4	660-910	interpolated
50C-2024-1600/3000	1600-3000A ZBTS-B0/ZBTSD-B0/ZBTSCT-B0 1600-3000A Z20/Z2D/Z2C	ABB	40.0-50.0	72.0	89.9	1978-3049	interpolated
50C-2031-4000	4000A ZBTS-B0/ZBTSD-B0/ZBTSCT-B0 4000A Z20/Z2D/Z2C	ABB	47.5-54.0	80.0	89.9	4310-5510	interpolated
50C-2031-4000	4000A ZBTS-B0	ABB	54.0	80.0	89.9	5510	UUT _z -6

**CATERPILLAR AUTOMATIC AND BYPASS TRANSFER SWITCH
CERTIFIED SUBCOMPONENT MATRIX**

TABLE 4



Subcomponent ID Number	Description	Manufacturer	General Dimensions (in)			Weight (lbs)	Representative UUT
			Width	Depth	Height		
Horizontal Bypass Power Panel Assembly							
50C-2048-600-1200	600-1200A ZBTS-B1/ZBTSD-B1/ZBTSCT-B1 600-1200A Z30/Z3D/Z3C	ABB	32.5-37.5	41.2	38.6	660-738	extrapolated
50C-2048-1200	1200A ZBTS-B1	ABB	37.5	41.2	38.6	738	UUT _x -5
50C-2042-1600-3000	1600-3000A ZBTS-B1/ZBTSD-B1/ZBTSCT-B1 600-1200A Z30/Z3D/Z3C	ABB	40.0-45.5	63.0	79.5	2870-3225	interpolated
50C-2042-3000	3000A ZBTS-B1	ABB	45.5	63.0	79.5	3225	UUT _x -6
Electrical Panel / Controller Components							
OXCO1 ¹	Controller and CPU	ABB	8.4	4.5	6.6	2.4	UUT _v -1
MX150	Controller and CPU	ABB	11.0	4.0	14.0	12.0	UUT _w -1/UUT _y -1
MX250	Controller and CPU	ABB	11.0	4.0	14.0	12.0	UUT _w -2/UUT _w -3 UUT _z -6 UUT _x -5/UUT _x -6
MX350	Controller and CPU	ABB	12.0	4.0	10.0	10.0	UUT _y -2

Notes:
¹OXCO1 is the primary controller identification number representative of the OXAMI1-L3, OXAMI1-L2, OXBMI1-L3, OXBMI1-L4, OXAMI1-L4 controller configurations with varied software.

**UUT_v-1
(63L 600A)**

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



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



Manufacturer: Caterpillar (ABB)

Product Line: Automatic Transfer Switch

Component: CSAC-060 (ZSAC-060)

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

UUT Description: 600A 3-Pole Automatic Transfer Switch with 600A ZSAC Power Panel, OXCO1 Controller, and NEMA 1 Frame Size 63L enclosure.

Test Location: Clark Testing, PA - Report #JID 21-00870 Rev. 0

Test Date: September 2021

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
538	40.0	20.0	74.0	10.3	10.3	26.6

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. Seismic enhancements made to the test unit shall be incorporated into the production units. The UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_w-1
(F14 600A)**

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



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



Manufacturer: Caterpillar (ABB)

Product Line: Automatic Transfer Switch

Component: ZTG-A0-600 (CTG-A0-600)

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

UUT Description: 600A 3-Pole Automatic Transfer Switch with 600A ZTG-A0 Power Panel, MX150 Controller, and NEMA 1 Frame Size F14 enclosure.

Test Location: Clark Testing, PA - Report #T4343

Test Date: December 2006

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
265	24.0	20.0	69.0	29.7	10.9	>33.3

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	1.34	0.54

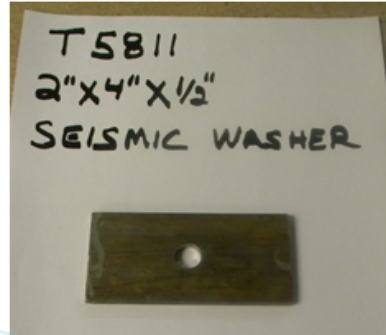
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. The UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_y-1
(40LA-1000A)**

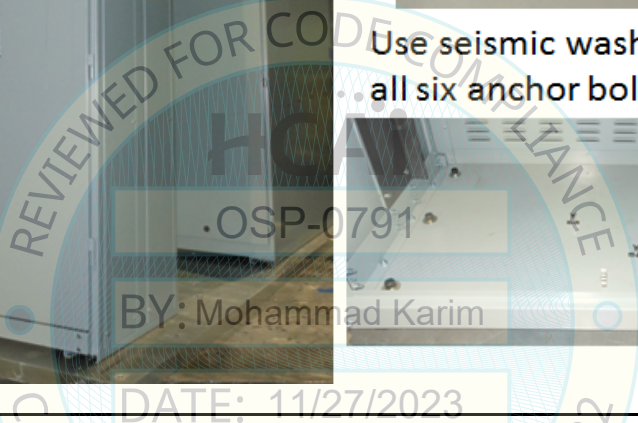
**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter anchor bolts and 2x4x0.25" plate washers.



Use seismic washer at
all six anchor bolt locations



Manufacturer: Caterpillar (ABB)

Product Line: Automatic Transfer Switch

Component: CT3-1000 (ZT3-1000)

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

UUT Description: 1000A 3-Pole Automatic Transfer Switch with 1000A ZT3 Power Panel, MX150 Controller, and NEMA 1 Frame Size 40LA enclosure.

Test Location: Clark Testing, PA - Report JID: 2050 **Test Date:** December 2012

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
917	36.5	23.5	90.0	6.8	9.0	>33.3

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	2.13	1.0	1.5	3.40	2.55	-	-
	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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_w-2
(65L-4000A)**

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



Mounting Details: Rigid floor mounted with 8 - 1/2" diameter grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: Automatic Transfer Switch

Component: CTS-B0-4000 (ZTS-B0-4000)

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

UUT Description: 4000A 4-Pole Automatic Transfer Switch with 4000A ZTS-B0 Power Panel, MX250 Controller, and NEMA 1 Frame Size 65L enclosure.

Test Location: Clark Testing, PA - Report #T4343

Test Date: December 2006

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
2,100	46.0	60.0	90.0	19.5	10.9	>33.3

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	1.34	0.54

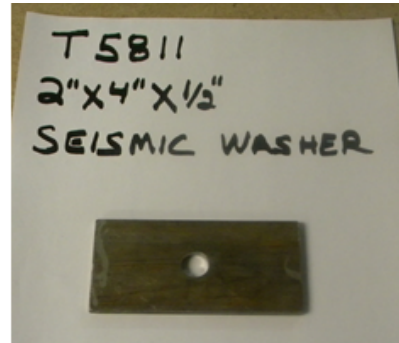
Note: The unit was full of contents during testing and remained functional before and after the ICC-ES AC156 test. The unit maintained structural integrity during and after the ICC-ES AC156 Test. The UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_y-2
(40LA-3000A)**

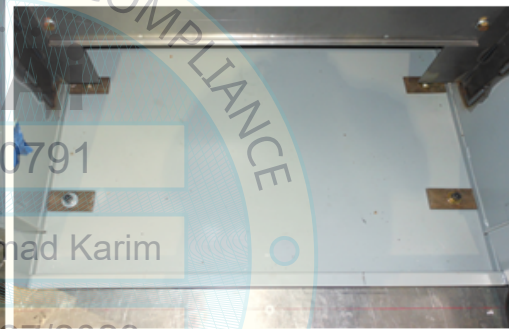
**UNIT UNDER TEST (UUT)
SUMMARY SHEET**



Mounting Details: Rigid floor mount with 6 - 1/2" diameter grade 5 bolts and 2x4x0.25" A36 plate



Use seismic washer at all six anchor bolt locations



Manufacturer: Caterpillar (ABB)

Product Line: Automatic Transfer Switch

Component: CT3-3000 (ZT3-3000)

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

UUT Description: 3000A 3-Pole Automatic Transfer Switch with 3000A ZT3 Power Panel, MX350 Controller, and NEMA 3r, 4, 12 Frame Size 40LA enclosure.

Test Location: Clark Testing, PA - Report JID: 2050

Test Date: December 2012

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,295	38.8	41.5	90.0	19.7	14.7	>33.3

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	2.13	1.0	1.5	3.40	2.55	-	-
	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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_w-3
(14C-400A)**

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



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



Manufacturer: Caterpillar (ABB)

Product Line: Vertical Bypass Switch

Component: CBTS-B0-400 (ZBTS-B0-400)

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

UUT Description: 400A 3-Pole Vertical Bypass Switch with 400A ZBTS-B0 Power Panel, MX250 Controller, and NEMA 1 Frame Size F14C enclosure.

Test Location: Clark Testing, PA - Report #T4343

Test Date: December 2006

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
875	30.0	28.5	86.0	10.2	7.0	>33.3

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	1.34	0.54

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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_z-6
(65B-4000A)**

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



Mounting Details: Rigid floor mounted with 8 - 1/2" diameter grade 5 bolts



Manufacturer: Caterpillar (ABB)

Product Line: Vertical Bypass Switch

Component: CBTS-B0-4000 (ZBTS-B0-4000)

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

UUT Description: 4000A 4-Pole Vertical Bypass Switch with 4000A ZBTS-B0 Power Panel, MX250 Controller, and NEMA 3R,4,12 Frame Size 65B enclosure.

Test Location: Clark Testing, PA - Report JID 19-01143-1

Test Date: September 2019

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
6,406	54.0	81.0	90.0	20.0	4.7	17.9

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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_x-5
(64B-1200A)**

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



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



Manufacturer: Caterpillar (ABB)

Product Line: Horizontal Bypass Switch

Component: CBTS-B1-1200 (ZBTS-B1-1200)

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

UUT Description: 1200A 3-Pole Horizontal Bypass Switch with 1200A ZBTS-B1 Power Panel, MX250 Controller, and NEMA 1 Frame Size 64B enclosure.

Test Location: Clark Testing, PA - Report #T4761

Test Date: May 2010

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
1,334	42.0	36.0	80.0	9.0	8.9	>33.3

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	1.34	0.54

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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.

**UUT_x-6
(65B-3000A)**

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



Mounting Details: Rigid floor mounted with 4 - 1/2" diameter grade 5 bolts and 3x7x0.5" A36 plate



Manufacturer: Caterpillar (ABB)

Product Line: Horizontal Bypass Switch

Component: CBTS-B1-3000 (ZBTS-B1-3000)

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

UUT Description: 3000A 4-Pole Horizontal Bypass Switch with 3000A ZBTS-B1 Power Panel, MX250 Controller, and NEMA 1 Frame Size 65B enclosure.

Test Location: Clark Testing, PA - Report #T4761

Test Date: May 2010

UUT PROPERTIES

Weight (lb)	Dimensions (inches)			Natural Frequency (Hz)		
	Width	Depth	Height	FB	SS	V
5,747	46.1	64.6	80.0	17.2	15.5	24.1

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	1.34	0.54

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 UUT is manufactured by ABB and branded Caterpillar. The first digit of the ID is "Z" for ABB and this is changed to "C" for the branded Caterpillar product.