



**OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
FACILITIES DEVELOPMENT DIVISION**

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

OFFICE USE ONLY

APPLICATION #: OSP-0704

OSHPD Special Seismic Certification Preapproval (OSP)

Type: New Renewal

Manufacturer Information

Manufacturer: Otis Elevator Company

Manufacturer's Technical Representative: John Kleine

Mailing Address: 1500 OTIS Way, Florence, SC 29501

Telephone: On File Email: On File

Product Information

Product Name: Elevator Equipment

Product Type: Elevator Controllers

Product Model Number: Global Control System (GCS) Controller Assemblies

General Description: Elevator controller assemblies that receive dispatch commands, control elevator car floor movement, and contain elevator motor drive and brake electronics.

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

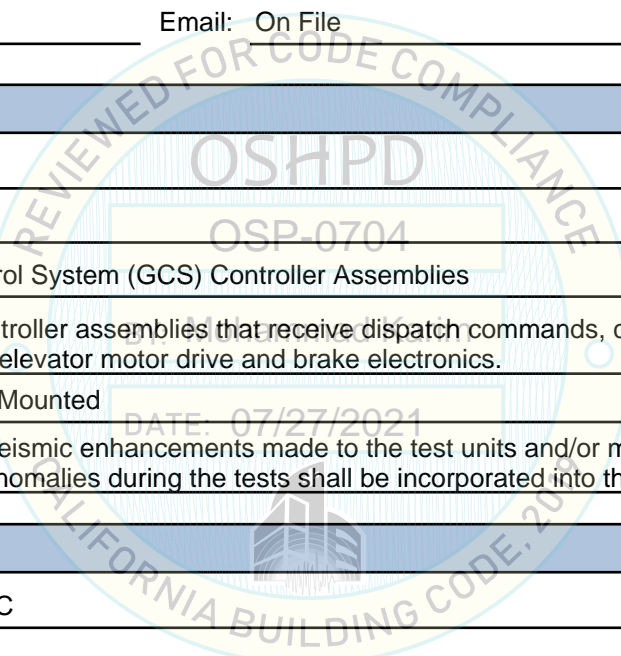
Applicant Company Name: EASE LLC

Contact Person: Jonathan Roberson

Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709

Telephone: (909) 606-7622 Email: jon@EASECo.com

Title: Principal Engineer





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

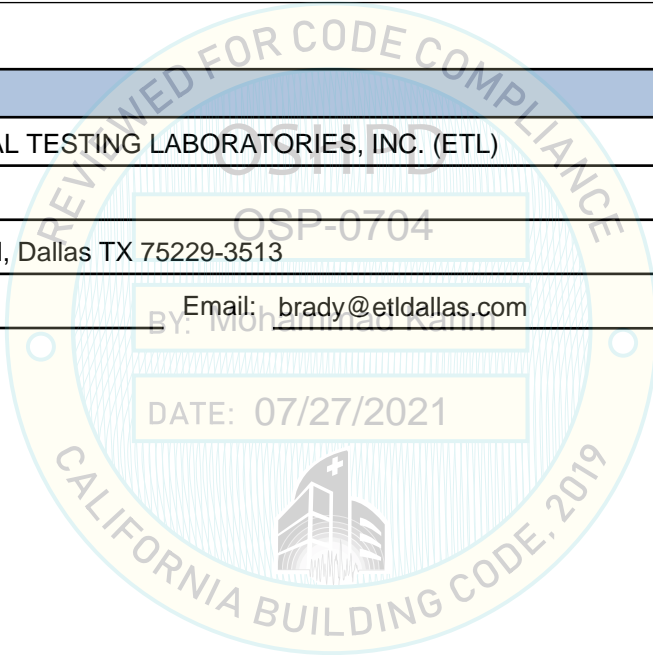
Company Name: EASE
Name: Jonathan Roberson California License Number: S4197
Mailing Address: 5877 Pine Ave., Suite 210, Chino Hills, CA 91709
Telephone: (951) 295-1892 Email: jon@EASECo.com

Certification Method

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

Testing Laboratory

Company Name: ENVIRONMENTAL TESTING LABORATORIES, INC. (ETL)
Contact Person: Brady Richard
Mailing Address: 11034 Indian Trail, Dallas TX 75229-3513
Telephone: (972) 247-9657 Email: brady@etldallas.com





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Seismic Parameters

Design Basis of Equipment or Components (F_p/W_p) = 1.44

SDS (Design spectral response acceleration at short period, g) = 2.0 and 2.5

a_p (Amplification factor) = 1

R_p (Response modification factor) = 2.5

Ω_0 (System overstrength factor) = 2.0

I_p (Importance factor) = 1.5

z/h (Height ratio factor) = 1 and 0

Natural frequencies (Hz) = See Attachment

Overall dimensions and weight = See Attachment

OSHPD Approval (For Office Use Only) - Approval Expires on 12/31/2025

Date: 7/27/2021

Name: Mohammad Karim Title: Supervisor, Health Facilities

Special Seismic Certification Valid Up to: SDS (g) = See Above z/h = See Above

Condition of Approval (if applicable): DATE: 07/27/2021

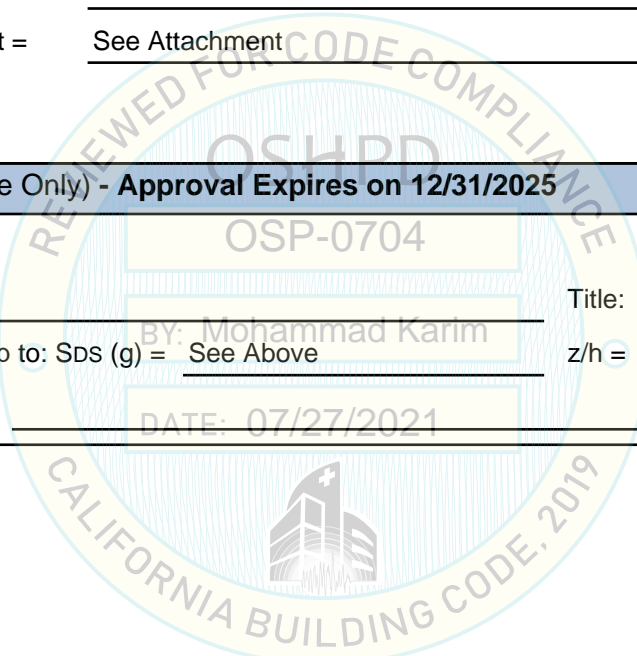


TABLE 1: SEISMIC CERTIFIED COMPONENTS

Manufacturer		OTIS Elevator Company									
Product Type		Elevator Components									
		S _{Ds} = 2.0 at z/h = 1 S _{Ds} = 2.5 at z/h = 0									
COMPONENT	MODEL NO.	DIMENSIONS (IN.)			APPROX. WT. (LB.)	MOUNT	BASIS ^[1]	F _P /W _P	a _P	R _P	Ω ₀
		W	D	H							
GLOBAL CONTROL SYSTEM (GCS) ^[2]											
GCS Controller Assembly w/ Elevator Controller, Brake, 60A Drive & Transformer Box (480 VAC)	ABA21310AD ^{[3][4]}	40.9	13.6	69.5	543.5	Rigid Base	UUT-2101-3	1.44	1	2 ½	2.0
GCS Controller Assembly w/ Elevator Controller, Brake, 60A Drive & Transformer Box (208 VAC)	ABA21310AD ^{[3][4]}	40.9	13.6	69.5	654	Rigid Base	UUT-2101-4	1.44	1	2 ½	2.0
GCS Controller Assembly w/ Elevator Controller, Brake, & Transformer Box (480 VAC)	ABA21310AD ^{[3][4]}	40.9	13.6	69.5	376.5	Rigid Base	UUT-2101-5	1.44	1	2 ½	2.0
GCS 412A Drive 120A	GDA21310EC2 ^[5]	20.9	9.5	53.6	269	Rigid Base	UUT-2101-6	1.44	1	2 ½	2.0
Mount	RIGID BASE: free-standing, base-mounted tower configuration with the component rigidly attached to a supporting structure and no lateral support above the base.										
Notes	<ol style="list-style-type: none"> BASIS: <ul style="list-style-type: none"> UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. Special Seismic Certification is limited to subcomponents listed in Table 2 and those meeting exceptions of CBC §1705A.13.3.1 Configurations determined by subcomponents listed in Table 2. Requires use of seismic kits: P/N AEB21305BN439 and P/N: AFA21305BL406 Requires use of floor mount kit: P/N: ABA471LJ 										

TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS

SUBCOMPONENT	MANUFACTURER	PART NO.	DESCRIPTION	BASIS
CONTROLLER ASSEMBLY	OTIS	AEB21305BN	Elevator Controller Assembly	UUT-2101-3 UUT-2101-4 UUT-2101-5
Power Supplies				
24VDC Switching Power Supply	Siemens	AAA621AT14	Adjustable 24VDC Switching Power Supply; 240W; 85V to 264V Input; Enclosed Frame	UUT-2101-3 UUT-2101-4 UUT-2101-5
12VDC Switching Power Supply	Cosel	AAA621AN22	12VDC Switching Power Supply; 15.6W; 85V to 264V Input; Enclosed Frame	UUT-2101-4 UUT-2101-5
Batteries				
12V Battery (7AH)	Leoch	AAA718E14	12V; 7AH; Sealed Lead Acid Battery	UUT-2101-3 UUT-2101-4 UUT-2101-5
12V Battery (4AH)	Leoch	AAA718E3	12V; 4AH; Sealed Lead Acid Battery	UUT-2101-3 UUT-2101-4 UUT-2101-5
Fuse Holder & Fuses				
Fuse (15 Amp)	Littelfuse/Bussman	AAA375CJ5	15 Amp; 600V; Time Delay Fuse	UUT-2101-3 UUT-2101-4 UUT-2101-5
BRAKE BOX ASSEMBLY	OTIS	AFA21305BL	Brake Assembly	UUT-2101-3 UUT-2101-4 UUT-2101-5
Transformers				
480VAC Transformer Rating: 1.0kVA	Grand Transformer	AAA225MV1	Transformer Primary: 440-480VAC; 50/60Hz; 3Ø; Rating: 1.0kVA	UUT-2101-3
480VAC Transformer Rating: 1.65kVA	Grand Transformer	AAA225MV5	Transformer Primary: 440-480VAC; 50/60Hz; 3Ø; Rating: 1.65kVA	UUT-2101-4 UUT-2101-5
Fuses & Filters				
Fuse (5 Amp)	Littelfuse/Bussman	AAA375BK31	5 Amp; 600V; Time Delay Fuse	UUT-2101-3
Fuse (8 Amp)	Littelfuse/Bussman	AAA375BK37	8 Amp; 600V; Time Delay Fuse	UUT-2101-4 UUT-2101-5
FMV	Otis	AAA21305BM1	Motor Filter Protection Assembly	UUT-2101-3 UUT-2101-4

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TABLE 2: SEISMIC CERTIFIED SUBCOMPONENTS

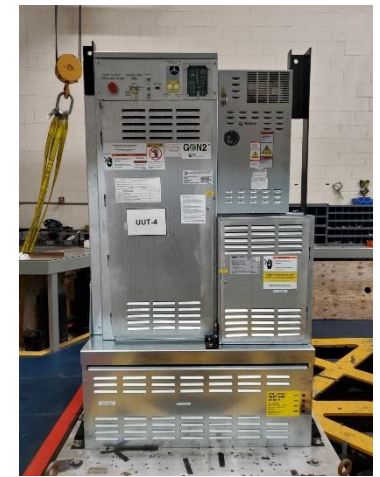
SUBCOMPONENT	MANUFACTURER	PART NO.	DESCRIPTION	BASIS
TRANSFORMER ASSEMBLIES				
TRANSFORMER BOX ASSEMBLY	Otis	AEA21305BR1	Transformer Up-Stand Box Assembly	UUT-2101-3 UUT-2101-5
TRANSFORMER BOX ASSEMBLY	Otis	AEA21305BR4	Transformer Up-Stand Box Assembly	UUT-2101-4
Building Power Transformer (208V to 480V)	Grand Transformer	ABA225LY3	Transformer: Primary 208-240VAC, Secondary 480VAC, Power: 26.2kVA transformer	UUT-2101-4
Fuse (70A, 600V)	Mersen	AAA375BZ68	70 Amp; 600V; Time Delay Fuse	UUT-2101-4
DRIVE ASSEMBLIES				
60A R3 REGEN DRIVE (480V)	Otis	KCA21310ABR5	Drive Assembly Volt: 480Vac; Output Current: 32 Arms	UUT-2101-3 UUT-2101-4
GCS 412A Drive 120A (480V)	Otis	GDA21310EC2 ^[3]	Drive Assembly Volt: 480Vac; Output Current: 60 Arms with floor mount kit	UUT-2101-6
Notes	<p>1. BASIS:</p> <ul style="list-style-type: none"> • UUT#: Indicates that a test specimen matching these characteristics was tested as part of this testing program. <p>2. Certification in this table is limited devices identified when installed as part of a complete assembly of the GCS defined in Table 1.</p> <p>3. Requires use of floor mount kit: P/N: ABA471LJ</p>			

ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT-2101-3 GCS Controller Assembly 480VAC 60A						
<i>Manufacturer:</i> OTIS						
<i>Identification:</i> Model No.: ABA21310AD Serial No.: 4920FSP825J1						
<i>Description:</i> Includes the following sub-components:						
<u>Description</u>		<u>Part No.</u>				
60A R3 REGEN DRIVE (480V) (S/N: CGJABR0520350027)		KCA21310ABR5				
BRAKE BOX ASSEMBLY		AFA21305BL1				
Transformer Primary: 480VAC; 50/60Hz; 3Ø; Rating: 1.0kVA		AAA225MV1				
Fuse (5 Amp)		AAA375BK31				
Motor Filter Protection Assembly		AAA21305BM1				
CONTROLLER ASSEMBLY		AEB21305BN1				
Adjustable 24VDC Switching Power Supply		AAA621AT14				
12V; 7AH; Sealed Lead Acid Battery (Leoch) Qty 4		AAA718E14				
12V; 4AH; Sealed Lead Acid Battery (Leoch)		AAA718E3				
Fuse (15 Amp)		AAA375CJ5				
TRANSFORMER BOX ASSEMBLY (Empty Box Only)		AEA21305BR1				
Seismic Kits: P/N AEB21305BN439 and P/N: AFA21305BL406						
<i>Mounting:</i> <u>Rigid Base (Floor)</u> mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex Head Bolts w/ Standard Washers through (2) mounting brackets P/N: AAA316HJR3						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
40.9	13.6	69.5	543.5	11.48	16.36	>50
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIg-H} [G]	A _{FLX-V} [G]	A _{RIg-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



UUT-2101-4 GCS Controller Assembly 208VAC 60A						
<i>Manufacturer:</i> OTIS						
<i>Identification:</i> Model No.: ABA21310AD Serial No.: 4920FSP825J2						
<i>Description:</i> Description (Includes the following sub-components)						
<u>Description</u>		<u>Part No.</u>				
60A R3 REGEN DRIVE (480V) (S/N: CGJABR0520350024)		KCA21310ABR5				
BRAKE BOX ASSEMBLY		AFA21305BL1				
Transformer Primary: 480VAC; 50/60Hz; 3Ø; Rating: 1.65kVA		AAA225MV5				
Fuse (8 Amp)		AAA375BK37				
Motor Filter Protection Assembly		AAA21305BM1				
CONTROLLER ASSEMBLY		AEB21305BN1				
Adjustable 24VDC Switching Power Supply		AAA621AT14				
12VDC Switching Power Supply		AAA621AN22				
12V; 7AH; Sealed Lead Acid Battery (Leoch) Qty 4		AAA718E14				
12V; 4AH; Sealed Lead Acid Battery (Leoch)		AAA718E3				
Fuse (15 Amp)		AAA375CJ5				
TRANSFORMER BOX ASSEMBLY		AEA21305BR4				
Building Power Transformer (primary 208A to secondary 480 V)		ABA225LY3				
Fuse (70A, 600V)		AAA375BZ68				
Seismic Kits: P/N AEB21305BN439 and P/N: AFA21305BL406						
<i>Mounting:</i> <u>Rigid Base (Floor)</u> mounted with (4) 1/2" dia. SAE J429 GR 5 Hex Bolts w/ Washers through (2) mounting brackets P/N: AAA316HJR3						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
40.9	13.6	69.5	654	10.84	20.77	12.63
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIg-H} [G]	A _{FLX-V} [G]	A _{RIg-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



ATTACHMENT 2: TEST SPECIMEN SUMMARY

UUT-2101-5 GCS Controller Assembly 480VAC 120A						
Manufacturer: OTIS						
Identification: Model No.: ABA21310AD Serial No.: 4920FSP825J3						
Description: Includes the following sub-components:						
Description			Part No.			
BRAKE BOX ASSEMBLY			AFA21305BL1			
Transformer Primary: 480VAC; 50/60Hz; 3Ø; Rating: 1.65kVA			AAA225MV5			
Fuse (8 Amp)			AAA375BK37			
CONTROLLER ASSEMBLY			AEB21305BN1			
Adjustable 24VDC Switching Power Supply			AAA621AT14			
12VDC Switching Power Supply			AAA621AN22			
12V; 7AH; Sealed Lead Acid Battery (Leoch) Qty 4			AAA718E14			
12V; 4AH; Sealed Lead Acid Battery (Leoch)			AAA718E3			
Fuse (15 Amp)			AAA375CJ5			
TRANSFORMER BOX ASSEMBLY (Empty Box Only)			AEA21305BR1			
120 AMP DRIVE (480V) (Mounted separately as UUT-6)			GDA21310EC2			
Seismic Kits: P/N AEB21305BN439 and P/N: AFA21305BL406						
Mounting: Rigid Base (Floor) mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex Head Bolts w/ Standard Washers through (2) mounting brackets P/N: AAA316HJR3						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
40.9	13.6	69.5	376.5	19.54	14.52	>50
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						



UUT-2101-6 GCS 412A Drive 120A						
Manufacturer: OTIS						
Identification: Model No.: GDA21310EC2 Serial No.: CGJEC-0220250027						
Description: Component of OTIS GCS Elevator Controllers						
This unit is a separately mounted drive that is part of the controller assembly of UUT-5.						
<u>Includes required floor mount kit:</u> P/N: ABA471LJ						
Mounting: Rigid Base (Floor) mounted using (4) – 1/2" dia. SAE J429 Grade 5 Hex Head Bolts w/ Standard Washers through floor mount P/N: ABA471LJ						
Dimensions [in]				Lowest Resonant Frequency [Hz]		
Width	Depth	Height	Weight [lb]	Front - Axis	Side - Axis	Vert - Axis
20.9	9.5	53.6	269	14.36	10.03	12.73
ICC-ES AC156 Shake Table Test Parameters						Code: 2019 CBC
S _{DS} [G]	z/h	I _p	A _{FLX-H} [G]	A _{RIG-H} [G]	A _{FLX-V} [G]	A _{RIG-V} [G]
2.0	1	1.5	3.20	2.40	1.68	0.68
2.5	0					
Unit satisfied AC156 requirements for structural integrity and manufacturer requirements for functionality after AC156 test.						

