

| APPLICATION FOR OSHPD SPECIAL SEISMIC   | OFFICE USE ONLY   |  |  |
|---|---|--|--|
| <b>CERTIFICATION PREAPPROVAL (OSP)</b>  | APPLICATION #:  | OSP – 0559 – 10                                |  |
| 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, South Carolina 29501   |   |  |  |
| Telephone: 843-432-4134   | eine@otis.com   |  |  |
| Product Information   | OMB   |  |  |
| Product Name: 416 Drive / 428 Drive OS DOD  |   |  |  |
| Product Type: Elevator drive controls OSP-0559-10   | 1 Z   |  |  |
| 428 Drive: JAA21310ACK7-0 with AAA374         Product Model Number:       416 Drive: GAA21310GJ999 with AAA374A         (List all unique product identification numbers and/or part numbers)       General Description:         Elevator drive cabinet for the control of elevator         attachment of external steel brace frame available as a standardized | AEW bracket kit<br>EV bracket kit<br>or machines. Standard d<br>option provided by Otis | Irive cabinet modified by<br>Elevator Company. |  |
| Mounting Description: Rigid base mount  | 0~~   |  |  |
|   | 1 °   |  |  |
| Applicant Information   | COD   |  |  |
| Applicant Company Name: EASE Co.  |   |  |  |
| Contact Person: Jonathan Roberson, S.E.   |   |  |  |
| Mailing Address: 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709   |   |  |  |
| Telephone: (909) 606-7622 Email: j.roberg   | son@easeco.com  |  |  |
| I hereby agree to reimburse the Office of Statewide Health F<br>accordance with the California Administrative Code, 2016.   | Planning and Develo   | opment review fees in                          |  |
| Signature of Applicant:   | Date  | : <u>4/20/2017</u>                             |  |
| Title:         Principal Structural Engineer         Company Name:         EASE   | Co.   |  |  |
| "Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"  | L. All M.   | OSHPD  |  |
| STATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY<br>OSH-ED-759 (REV 12/16/15)   |   | Page 1 of 3                                    |  |
| USH 2733 (REV 12/10/13)   | 1.1   | raye I UI S                                    |  |



| California Licensed Structural Engineer Responsible for the Engineering and Test Report(s)   |  |  |  |  |  |
|--|--|--|--|--|--|
| Company Name: EASE Co.   |  |  |  |  |  |
| Name: Jonathan Roberson, S.E. California License Number: S4197   |  |  |  |  |  |
| Mailing Address: _ 5877 Pine Ave, Suite 210, Chino Hills, CA. 91709  |  |  |  |  |  |
| Telephone: (909) 606-7622 Email: j.roberson@easeco.com   |  |  |  |  |  |
| Supports and Attachments Preapproval   |  |  |  |  |  |
| <ul> <li>Supports and attachments are preapproved under OPM-<br/>(Separate application for OSHPD Preapproval of Manufacturer's Certification (OPM) of Supports and attachments is required)</li> <li>Supports and attachments are not preapproved</li> </ul> |  |  |  |  |  |
| Certification Method   |  |  |  |  |  |
| <ul> <li>Testing in accordance with: ICC-ES AC156</li> <li>Other (Please Specify): OSP-0559-10</li> </ul>  |  |  |  |  |  |
| BY: Timothy J. Piland  |  |  |  |  |  |
| Testing Laboratory   |  |  |  |  |  |
| Company Name: Environmental Testing Laboratory, Inc.   |  |  |  |  |  |
| Contact Name: Brady Richard  |  |  |  |  |  |
| Mailing Address: 11034 Indian Trail, Dallas, TX. 75229-3513  |  |  |  |  |  |
| Telephone: (972) 247-9657 Email: brady@etIdallas.com   |  |  |  |  |  |

"Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"

07/26/2018

OSP-0559-10

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OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT FACILITIES DEVELOPMENT DIVISION

| Seismic Parameters  |
|---|
| Design in accordance with ASCE 7-10 Chapter 13: 🛛 Yes 🗌 No  |
| Design Basis of Equipment or Components (Fp/Wp) = 1.50 (Sps=2.00 @ z/h=1) & 1.13 (Sps=2.50 @ z/h=0)                 |
| S <sub>DS</sub> (Design spectral response acceleration at short period, g) = <b>2.00 (z/h=1) &amp; 2.50 (z/h=0)</b> |
| $a_p$ (In-structure equipment or component amplification factor) = <u><math>2\frac{1}{2}</math></u>                 |
| R <sub>p</sub> (Equipment or component response modification factor) = 6  |
| $\Omega_0$ (System overstrength factor) = 2   |
| $I_{P}$ (Importance factor) = 1.5   |
| z/h (Height factor ratio) =1( S <sub>DS</sub> =2.00) & 0 ( S <sub>DS</sub> =2.50)                                   |
| Equipment or Component Natural Frequencies (Hz) = See Attachment 1  |
| Overall dimensions and weight (or range thereof) = O D See Attachment 1   |
| Equipment or Components @ grade designed in accordance with ASCE 7-10 Chapter 15: 🗌 Yes 🛛 No                        |
| Design Basis of Equipment or Components (V/W) =   |
| S <sub>DS</sub> (Design spectral response acceleration at short period, g) =  |
| S <sub>D1</sub> (Design spectral response acceleration at 1-second period, g) =                                     |
| R (Response modification coefficient ) =  |
| Ω <sub>0</sub> (System overstrength factor) = <u>BY: Timothy J. Piland</u>  |
| Cd (Deflection amplification factor) =  |
| $I_p$ (Importance factor) = 1.5 DATE: 07/27/2018  |
| 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:  |
| List of Attachments Supporting Special Seismic Certification  |
| Test Report(s) Drawings Calculations Manufacturer's Catalog   |
| Other(s) (Please Specify): Attachment 1   |
| OSHPD Approval (For Office Use Only) – Approval Expires on December 31, 2022  |
| 1/1/100   |
| Date: July 27, 2018   |
| Print Name: Inter Inter Inter Inter   |
| Special Seismic Certification valid Up to : $S_{DS}(g) = \underline{See \ Above} z/n = \underline{See \ Above}$     |
| Condition of Approval (il applicable):  |
|   |
|   |
| "Access to Safe, Quality Healthcare Environments that Meet California's Diverse and Dynamic Needs"                  |
| TATE OF CALIFORNIA – HEALTH AND HUMAN SERVICES AGENCY   |



## **OTIS ELEVATOR COMPANY**

## ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

ATTACHMENT PAGE | 1 OF 2

| UUT-1               | 428 Drive   |  |  |                        |                        |                        |
|---------------------|---|--|--|------------------------|------------------------|------------------------|
| MANUFACTURER:       | OTIS Elevator Comp  | any  |  |                        |                        | 1"LATEN                |
| IDENTIFICATION:     | Model No.: JAA21310ACK7#<br>Serial No.:   |  |  | F                      |                        |                        |
| DESCRIPTION:        | 150A adjustable speed elevator drive<br>Input: 480V 60Hz 3PH AC 95A Rated<br>Output: 150A 0-520V 0-68.8Hz 3PH AC I50A Rated |  |  | -                      |                        |                        |
|                     | Test unit included an<br>frame bolted to the c<br>with M10 serrated fla<br>Following completior<br>new standardized se      | Otis-provided exter<br>abinet. Frame meml<br>inge bolts and serral<br>of testing, Otis assi<br>ismic option kit # AA | nal steel brace<br>bers bolted together<br>ted flange nuts.<br>igned the frame to a<br>AA374AEW. |                        |                        |                        |
|                     | (15) – M6-Class 4.6 (approx. 3" above flo<br>10.9 screws. (5 each<br>cabinet)   | screws attaching ca<br>or) were replaced b<br>on left & right sides  | binet to base<br>y (15) – M6-Class<br>& 5 at rear of   |                        |                        |                        |
| MOUNTING:           | Rigid Base (Floor) M<br>(4)- ½" diameter J42<br>(4)- ½" diameter J42<br>(Torque = 40 ft-lb).                                | ounted using:<br>9 Grade 8 bolts to ca<br>9 Grade 8 bolts to ea  | abinet base &<br>xternal frame.<br>SP-0559-10  |                        |                        |                        |
|                     | DIMENSIONS (in.)  | BV. Ti   | mothy J. Pila  | LOWEST F               | RESONANT FREQU         | ENCY (Hz.)             |
| Width               | Depth   | Height   | Weight (lb.)   | Side-Axis O            | Front-Axis             | Vert-Axis              |
| 29.5                | 24  | 80.75<br>DATE:   | 891.5 (drive)<br>1047.5 (w/frame) 8  | 12.6 7                 | 20.7                   | 24.5                   |
| ICC-ES AC156 SH     | AKE TABLE TEST PÅ   | RAMETERS   |  |                        |                        |                        |
| S <sub>DS</sub> (G) | z/h   | TE IP  | A <sub>FLX-H</sub> (G)   | A <sub>RIG-H</sub> (G) | A <sub>FLX-V</sub> (G) | A <sub>RIG-V</sub> (G) |
| 2.0<br>2.5          | 1<br>0  | P.1.5  | 3.20   | 2.40                   | 1.68                   | 0.68                   |
| Unit maintained str | uctural integrity and re  | mained functional pe   | er manufacturer requirer   | nent after AC156 test  |                        |                        |
|                     |   |  |  |                        |                        |                        |



## **OTIS ELEVATOR COMPANY**

## ATTACHMENT 1: SEISMIC CERTIFIED COMPONENTS

ATTACHMENT PAGE | 2 OF 2

| 416 Drive   |  |  |  |   |  |
|---|--|--|--|---|--|
| OTIS Elevator Comp  | pany   |  |  |   |  |
| Model No.: GAA21310GJ<br>Serial No.:  |  |  |  | 0:11  | 8  |
| 80A adjustable speed elevator drive:<br>Input: 380-480V 50/60Hz 3PH AC<br>Output: 80A 0-513V 0-100Hz 3PH AC             |  |  | ·  |   |  |
| Test unit included ar<br>frame bolted to the c<br>with M10 serrated fla<br>Following completion<br>a standardized seisn | Otis-provided exter<br>abinet. Frame meml<br>ange bolts and serrat<br>of testing, the fram<br>nic option kit # AAA3  | nal steel brace<br>bers bolted together<br>ted flange nuts.<br>e became part of a<br>874AEV  |  |   |  |
| Connection of cabine<br>replaced w/ M5 threa  | et to pedestal base:<br>ad rolling screws all l  | hollow shank rivets ocations.  |  |   |  |
| Rigid Base (Floor) M<br>(4)- ½" diameter J42<br>(4)- ½" diameter J42<br>(Torque = 40 ft-lb).                            | ounted using<br>9 Grade 8 bolts to ca<br>9 Grade 8 bolts to e  | abinet base & External frame.  | OI BUTTO   |   |  |
| DIMENSIONS (in.)  | BY. Ti   | mothy J. Pila  | and LOWEST I   | RESONANT FREQU  | ENCY (Hz.)   |
| Depth   | Height   | Weight (lb.)   | Side-Axi <mark>s</mark>  | Front-Axis  | Vert-Axis  |
| 15  | 63<br>DATE:  | 335.5 (Drive)<br>0 427.5 (w/ Frame)  | 10.8 9   | 12.6  | >50  |
| IAKE TABLE TEST PA  | RAMETERS   |  |  |   |  |
| z/h   | IP IP  | A <sub>FLX-H</sub> (G)   | А <sub>RIG-Н</sub> (G)   | A <sub>FLX-V</sub> (G)  | A <sub>RIG-V</sub> (G)   |
| 1<br>0  | 71.5   | 3.20   | 2.40   | 1.68  | 0.68   |
| uctural integrity and re  | mained functional pe   | er manufacturer require  | ment after AC156 test  | t.  | •  |
|   |  |  |  |   |  |
|   | 416 Drive<br>OTIS Elevator Comp<br>Model No.: GAA213'<br>Serial No.:<br>80A adjustable spee<br>Input: 380-480V 50/6<br>Output: 80A 0-513V<br>Test unit included an<br>frame bolted to the c<br>with M10 serrated fla<br>Following completion<br>a standardized seism<br>Connection of cabine<br>replaced w/ M5 threa<br>Rigid Base (Floor) M<br>(4)- ½" diameter J42<br>(1)- ½" diameter J42<br>(Torque = 40 ft-lb). | 416 Drive         OTIS Elevator Company         Model No.: GAA21310GJ         Serial No.:         80A adjustable speed elevator drive:         Input: 380-480V 50/60Hz 3PH AC         Output: 80A 0-513V 0-100Hz 3PH AC         Test unit included an Otis-provided exter         frame bolted to the cabinet. Frame mem         with M10 serrated flange bolts and serrat         Following completion of testing, the fram         a standardized seismic option kit # AAA3         Connection of cabinet to pedestal base:         replaced w/ M5 thread rolling screws all the         Rigid Base (Floor) Mounted using         (4)- ½" diameter J429 Grade 8 bolts to c         (4)- ½" diameter J429 Grade 8 bolts to c         (Torque = 40 ft-lb).         DIMENSIONS (in.)         Depth       Height         15       63         AKE TABLE TEST PARAMETERS         Z/h       Ip         1       1.5         outural integrity and remained functional period         Output and remained functional period         Output and remained functional period         Output and remained functional period | 416 Drive         OTIS Elevator Company         Model No.: GAA21310GJ         Serial No.:         80A adjustable speed elevator drive:         Input: 380-480V 50/60H2 3PH AC         Output: 80A 0-513V 0-100H2 3PH AC         Test unit included an Otis-provided external steel brace         frame bolted to the cabinet. Frame members bolted together         with M10 serrated flange bolts and serrated flange nuts.         Following completion of testing, the frame became part of a         a standardized seismic option kit # AAA374AEV         Connection of cabinet to pedestal base: hollow shank rivets         replaced w/ M5 thread rolling screws all locations.         Rigid Base (Floor) Mounted using         (4)- ½' diameter J429 Grade 8 bolts to cabinet base 8         (4)- ½' diameter J429 Grade 8 bolts to cabinet base 8         (4)- ½' diameter J429 Grade 8 bolts to cabinet base 8         (4)- ½' diameter J429 Grade 8 bolts to cabinet base 8         (4)- ½' diameter J429 Grade 8 bolts to cabinet base 7         (5)       0         DIMENSIONS (in.)       0         Depth       Height       Weight (lb.)         15       63       325.5 (Drive)         AKE TABLE TEST PARAMETERS       2/h       1         0       1.5       3.20         uctu | 416 Drive         OTIS Elevator Company         Model No: GAA21310GJ<br>Serial No::         80A adjustable speed elevator drive:<br>Input: 380A 0513V 0-100Hz 3PH AC         Output: 80A 0-513V 0-100Hz 3PH AC         Test unit included an Otis-provided external steel brace<br>frame bolled to the cabine. Frame members bolled together<br>with M10 serrated flange bolls and serrated flange nuts.<br>Following completion of testing, the frame became part of a<br>a standardized seismic option kit # AAA374AEV         Connection of cabinet to pedestal base: hollow shank rivets<br>replaced w/ M5 thread rolling screws all locations.         Rigd Base (Floor) Mounted using<br>(4)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(4)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8 bolls to cabinet base 8<br>(7)-½' diameter J429 Grade 8<br>(7)- | <b>416 Drive</b> OTIS Elevator Company         Model No.: GAA21310GJ         Serial No.:         80A adjustable speed elevator drive:         Input: 380-480V 50x60Hz 3PH AC         Ottput: 80A octsive 1 on the provided external steel brace         Fait unit included an Oils-provided external steel brace         Fait unit included an Oils-provided external steel brace         Following completion of testing, the frame became part of a         a standardized seismic option with # AAA37AFV         Connection of cabinet to padestal base hollow shark rivets         replaced wild M5 thread rolling screws all locations.         Rigid Base (Floor) Mounted using         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (5)- 000 Mounted using         (1)- 000 Mounted using         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (5)- 001 Mounted using         (4)- %' diameter J429 Grade B bolts to cabinet base & 8         (5)- 001 Mounted using         (1)       0         15       63      < |