SECTION 14 08 00

**COMMISSIONING OF CONVEYING SYSTEMS**

**BASED ON DFD MASTER SPECIFICATION DATED 02/27/2015**

***This section has been written to cover most (but not all) situations that you will encounter. Depending on the requirements of your specific project, you may have to add material, delete items, or modify what is currently written. The Division of Facilities Development expects changes and comments from you.***

**P A R T 1 ‑ G E N E R A L**

**SCOPE**

This section includes commissioning forms for construction verification and functional performance testing. Included are the following topics:

PART 1 - GENERAL

Scope

Related Work

Reference

Submittals

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

***DO NOT INCLUDE ANY COMMISSIONING FORMS for PRELIMINARY review. Just edit the list below and only submit pages 14 08 00-1 through 14 08 00-2 with strikethroughs.***

Commissioning Forms

[CV-14 10 00](#CV141000) Dumbwaiters

[CV-14 21 20](#CV142120) Traction Elevators

[CV-14 24 20](#CV142420) Hydraulic Elevators

**RELATED WORK**

Section 01 91 01 or 01 91 02 – Commissioning Process

**REFERENCE**

Applicable provisions of Division 01 shall govern work under this section.

**SUBMITTALS**

Reference the General Conditions of the Contract for submittal requirements.

Reference Section 01 91 0 or 01 91 02 Commissioning Process for Construction Verification Checklist **and Functional Performance Test** submittal requirements.

**P A R T 2 – P RO D U C T S**

(Not Used)

**P A R T 3 – E X E C U T I O N**

**COMMISSIONING FORMS**

Commissioning forms are to be filled in as work progresses by the individuals responsible for installation and shall be completed for each installation phase.

Provide a description of the work completed since the last entry, the percentage of the total work completed for the system for that area and the step of installation or finalization.

Circle Yes or No for each commissioning form item. If the information requested for an item does not apply to the given stage of installation for the system, list it as “N/A”. Explain all discrepancies, negative responses or N/A responses in the negative responses section.

Once the work is 100% complete and the responses to each item are complete and resolved for a given commissioning forms group, mark as complete, initial and date in the spaces provided.

Provide copies of the commissioning forms to the commissioning agent 2 days prior to construction progress meetings.

***Edit the individual construction verification checklists and provide additional checklists as needed to reflect the verification requirements of assemblies, components, equipment and systems to be commissioned on this project.***

***DO NOT INCLUDE ANY of the following***

***COMMISSIONING FORMS for PRELIMINARY review. Just edit the list in Part I above and only submit pages***

***14 08 00-1 through 14 08 00-2 with strikethroughs.***

**CV-14 10 00 - Dumbwaiters**

**Equipment Identification/Tag: \_\_\_\_\_\_**

**Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group/Item** | **Group/Task Description** | | | **Submitted** | **Delivered** |
| *A* | *MODEL VERIFICATION* | | | | |
| 1 | Manufacturer | | |  |  |
| 2 | Model | | |  |  |
| 3 | Serial Number | | |  |  |
| 4 | Capacity Rating (lbs) | | |  |  |
| 5 | Speed Rating (fpm) | | |  |  |
| 6 | # of Stops | | |  |  |
| 7 | Interior Dimensions (height / width / depth) (in) | | | **/ /** | **/ /** |
| 8 | Voltage / Phase / Frequency (V / - / Hz) | | | **/ /** | **/ /** |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

| **Group/Item** | **Group/Task Description** | | | **Response** | |
| --- | --- | --- | --- | --- | --- |
| *B* | *PHYSICAL CHECKS* | | | | |
| 1 | Unit is free from physical damage. | | | YES | NO |
| 2 | All components present. | | | YES | NO |
| 3 | Installation and startup manual provided. | | | YES | NO |
| 4 | Unit tags affixed. | | | YES | NO |
| 5 | Shaft is prepared for installation. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *C* | *INSTALLATION* | | | | |
| 1 | Guide rails plumb and parallel within 1/8" in 12' travel span, not exceeding 1/4" for overall travel of unit. | | | YES | NO |
| 2 | Guide rail and brackets are accessible for later adjustment and realignment. | | | YES | NO |
| 3 | Unit, rails and track installed as required by manufacturer and specifications. | | | YES | NO |
| 4 | Exposed finished surfaces have been protected against damage. | | | YES | NO |
| 5 | Cable has been properly secured to track header per manufacturer’s requirements. | | | YES | NO |
| 6 | Final limit switch installed temporarily at top of track. | | | YES | NO |
| 7 | Floor cams installed at the bottom of each stop specified. | | | YES | NO |
| 8 | Cable wound to drum per manufacturer’s direction. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *D* | *ELECTRICAL* | | | | |
| 1 | Local disconnect installed in accessible and visible location. | | | YES | NO |
| 2 | All electrical connections are tight. | | | YES | NO |
| 3 | All electrical components are grounded. | | | YES | NO |
| 4 | Travel cable located in track location specified and secured per manufacturer requirements. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

| **Group/Item** | **Group/Task Description** | | | **Response** | |
| --- | --- | --- | --- | --- | --- |
| *E* | *CONTROLS INSTALLATION* | | | | |
| 1 | Interior and floor control panels installed and labeled properly. | | | YES | NO |
| 2 | Remote status wiring installed and communication verified. | | | YES | NO |
| 3 | Remote alarm wiring installed and communication verified. | | | YES | NO |
| 4 | Door interlocks installed and operation verified. | | | YES | NO |
| 5 | Final limit switch secured in final location and operation verified. | | | YES | NO |
| 6 | Call and send operations verified and operational at each landing. | | | YES | NO |
| 7 | Slack cable switch installed and operation verified. | | | YES | NO |
| 8 | Emergency stop operation verified. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *F* | *MECHANICAL STARTUP* | | | | |
| 1 | All hardware connections verified to be secure. | | | YES | NO |
| 2 | Unit stops level with floor sill at each landing. | | | YES | NO |
| 3 | All protective films and covers removed. | | | YES | NO |
| 4 | Acceptance testing per governing authorities performed and satisfactory. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

**Negative Responses**

| **Group/**  **Item** | **Date**  **Found** | **Found**  **By** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |

**CV-14 21 20 – Traction Elevators**

**Equipment Identification/Tag: \_\_\_\_\_\_**

**Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group/Item** | **Group/Task Description** | | | **Submitted** | **Delivered** |
| *A* | *MODEL VERIFICATION-ELEVATOR* | | | | |
| 1 | Manufacturer | | |  |  |
| 2 | Model | | |  |  |
| 3 | Serial Number | | |  |  |
| 4 | Type | | |  |  |
| 5 | Capacity Rating (people / lbs) | | | **/** | **/** |
| 6 | Speed Rating (fpm) | | |  |  |
| 7 | Travel Distance / # stops (ft. / #) | | | **/** | **/** |
| 8 | Interior dimensions (height / width / depth) (in) | | | **/ /** | **/ /** |
| 9 | Hoistway entrance dimensions (width / height) (in) | | | **/** | **/** |
| 10 | Door Type | | |  |  |
| 11 | Voltage / Phase / Frequency (V / - / Hz) | | | **/ /** | **/ /** |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *B* | *MODEL VERIFICATION-MOTOR* | | | | |
| 1 | Manufacturer | | |  |  |
| 2 | Model | | |  |  |
| 3 | Serial Number | | |  |  |
| 4 | Power and Speed Ratings (hp / rpm) | | | **/** | **/** |
| 5 | Voltage / Phase / Frequency (V / - / Hz) | | | **/ /** | **/ /** |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *C* | *PHYSICAL CHECKS* | | | | |
| 1 | All components are free from physical damage. | | | YES | NO |
| 2 | The interior of the elevator car is free from physical damage. | | | YES | NO |
| 3 | All components present (traction motor, brake, guide rails and shoes, car, doors, etc.). | | | YES | NO |
| 4 | Installation and startup manual provided. | | | YES | NO |
| 5 | Unit tags affixed. | | | YES | NO |
| 6 | Manufacturer’s ratings readable/accurate. | | | YES | NO |
| 7 | Shaft is prepared for installation | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *D* | *INSTALLATION-TRACK* | | | | |
| 1 | Guide rails plumb and parallel within 1/8" in 12' travel span, not exceeding 1/4" for overall travel of unit. | | | YES | NO |
| 2 | Guide rail and brackets are accessible for later adjustment and realignment. | | | YES | NO |
| 3 | Rails and track installed as required by manufacturer and specifications. | | | YES | NO |
| 4 | Exposed finished surfaces have been protected against damage. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *E* | *ELECTRICAL-MACHINE ROOM* | | | | |
| 1 | Motor and controller set and secured per manufacturer instructions. | | | YES | NO |
| 2 | Motor rotation in the proper direction. | | | YES | NO |
| 3 | All electrical connections are tight. | | | YES | NO |
| 4 | All electrical components are grounded. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *F* | *INSTALLATION-DOORS, CAR AND CABLE* | | | | |
| 1 | Cabling and counter weights installed per manufacturer’s requirements. | | | YES | NO |
| **Group/Item** | **Group/Task Description** | | | **Response** | |
| 2 | Car assembled and installed per manufacturer’s requirements. | | | YES | NO |
| 3 | Interior finish and materials installed in car per specifications and provisions provided to prevent damage. | | | YES | NO |
| 4 | Doors and frames installed at each landing and mechanical operation verified. | | | YES | NO |
| 5 | Sills flush with finished floor and void filled with non-metallic grout. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *G* | *ELECTRICAL-CAR AND DOORS* | | | | |
| 1 | Power cable routed and connected to car per manufacturer’s instructions. | | | YES | NO |
| 2 | Power provided to doors, lamps and controls at each landing and operation verified. | | | YES | NO |
| 3 | All electrical connections are tight. | | | YES | NO |
| 4 | All electrical components are grounded. | | | YES | NO |
| 5 | Telephone circuit wired to car phone and operation verified. | | | YES | NO |
| 6 | Operation of all fixtures and control lighting verified. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *H* | *CONTROLS INSTALLATION* | | | | |
| 1 | Interior and floor control panels installed and labeled properly. | | | YES | NO |
| 2 | Remote start and stop wiring installed and communication verified. | | | YES | NO |
| 3 | Remote status wiring installed and communication verified. | | | YES | NO |
| 4 | Remote alarm wiring installed and communication verified. | | | YES | NO |
| 5 | Call operations verified and operational at each landing. | | | YES | NO |
| 6 | Emergency stop operation verified. | | | YES | NO |
| 7 | Emergency recall sequence verified and acceptable. | | | YES | NO |
| 8 | Power failure sequence verified and acceptable. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *I* | *MECHANICAL STARTUP* | | | | |
| 1 | All hardware connections verified to be secure. | | | YES | NO |
| 2 | Unit stops level with floor sill at each landing. | | | YES | NO |
| 3 | All protective films and covers removed. | | | YES | NO |
| 4 | Rate of travel adjusted to ensure smooth acceleration and deceleration. | | | YES | NO |
| 5 | All unit bearings and shafts have been lubricated per manufacturer recommendations. | | | YES | NO |
| 6 | Unit ran continuously for 30 minutes at rated capacity and stopped for 5 seconds at each landing in each travel direction with no issue. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *J* | *ACCEPTANCE TESTING* | | | | |
| 1 | Acceptance testing per ASME A17.1 and governing authorities performed and acceptable. | | | YES | NO |
| 2 | Certificates and permits for operation delivered to owner. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

**Negative Responses**

| **Group/**  **Item** | **Date**  **Found** | **Found**  **By** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |

**CV-14 24 20 – Hydraulic Elevators**

**Equipment Identification/Tag: \_\_\_\_\_\_**

**Location:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group/Item** | **Group/Task Description** | | | **Submitted** | **Delivered** |
| *A* | *MODEL VERIFICATION* | | | | |
| 1 | Manufacturer | | |  |  |
| 2 | Model | | |  |  |
| 3 | Serial Number | | |  |  |
| 4 | Type | | |  |  |
| 5 | Capacity Rating (people / lbs) | | | **/** | **/** |
| 6 | Speed Rating (fpm) | | |  |  |
| 7 | Travel Distance / # stops (ft. / #) | | | **/** | **/** |
| 8 | Interior dimensions (height / width / depth) (in) | | | **/ /** | **/ /** |
| 9 | Hoistway entrance dimensions (width / height) (in) | | | **/** | **/** |
| 10 | Door Type | | |  |  |
| 11 | Voltage / Phase / Frequency (V / - / Hz) | | | **/ /** | **/ /** |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *B* | *MODEL VERIFICATION-HYDRAULIC PUMP* | | | | |
| 1 | Manufacturer | | |  |  |
| 2 | Model | | |  |  |
| 3 | Serial Number | | |  |  |
| 4 | Fluid | | |  |  |
| 5 | Capacity Rating (gpm / psi) | | | **/** | **/** |
| 6 | Power and Speed Ratings (hp / rpm) | | | **/** | **/** |
| 7 | Voltage / Phase / Frequency (V / - / Hz) | | | **/ /** | **/ /** |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

| **Group/Item** | **Group/Task Description** | | | **Response** | |
| --- | --- | --- | --- | --- | --- |
| *C* | *PHYSICAL CHECKS* | | | | |
| 1 | All components are free from physical damage. | | | YES | NO |
| 2 | The interior of the elevator car is free from physical damage. | | | YES | NO |
| 3 | All hydraulic line openings are sealed with plastic plugs. | | | YES | NO |
| 4 | All components present (pump, brake, guide rails and shoes, car, doors, etc.). | | | YES | NO |
| 5 | Installation and startup manual provided. | | | YES | NO |
| 6 | Unit tags affixed. | | | YES | NO |
| 7 | Manufacturer’s ratings readable/accurate. | | | YES | NO |
| 8 | Shaft is prepared for installation. | | | YES | NO |
| 9 | Elevator pit and shaft well prepared for installation. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *D* | *INSTALLATION-TRACK* | | | | |
| 1 | Guide rails plumb and parallel within 1/8" in 12' travel span, not exceeding 1/4" for overall travel of unit. | | | YES | NO |
| 2 | Guide rail and brackets are accessible for later adjustment and realignment. | | | YES | NO |
| 3 | Rails and track installed as required by manufacturer and specifications. | | | YES | NO |
| 4 | Exposed finished surfaces have been protected against damage. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

| **Group/Item** | **Group/Task Description** | | | **Response** | |
| --- | --- | --- | --- | --- | --- |
| *E* | *INSTALLATION-HYDRAULIC SYSTEM* | | | | |
| 1 | Pump mounted and secured with vibration isolation and per manufacturer’s instructions. | | | YES | NO |
| 2 | Plunger-cylinder centered under car and securely anchored in place. | | | YES | NO |
| 3 | All electrical connections are tight. | | | YES | NO |
| 4 | All electrical components are grounded. | | | YES | NO |
| 5 | All piping components have been installed (in the correct order) as required by manufacturer. | | | YES | NO |
| 6 | Piping arranged for ease of unit/pump removal. | | | YES | NO |
| 7 | Piping supported as required by specifications. | | | YES | NO |
| 8 | Piping is clean. | | | YES | NO |
| 9 | All valves and test ports are easily accessible. | | | YES | NO |
| 10 | Valve tags attached. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *F* | *ELECTRICAL-MACHINE ROOM* | | | | |
| 1 | Pump controller set and secured per manufacturer instructions. | | | YES | NO |
| 2 | Motor rotation in the proper direction. | | | YES | NO |
| 3 | All electrical connections are tight. | | | YES | NO |
| 4 | All electrical components are grounded. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *G* | *INSTALLATION-DOORS, CAR AND CABLE* | | | | |
| 1 | Cabling and counter weights installed per manufacturer’s requirements. | | | YES | NO |
| 2 | Car assembled and installed per manufacturer’s requirements. | | | YES | NO |
| 3 | Interior finish and materials installed in car per specifications and provisions provided to prevent damage. | | | YES | NO |
| 4 | Doors and frames installed at each landing and mechanical operation verified. | | | YES | NO |
| 5 | Sills flush with finished floor and void filled with non-metallic grout. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *H* | *ELECTRICAL-CAR AND DOORS* | | | | |
| 1 | Power cable routed and connected to car per manufacturer’s instructions. | | | YES | NO |
| 2 | Power provided to doors, lamps and controls at each landing and operation verified. | | | YES | NO |
| 3 | All electrical connections are tight. | | | YES | NO |
| 4 | All electrical components are grounded. | | | YES | NO |
| 5 | Telephone circuit wired to car phone and operation verified. | | | YES | NO |
| 6 | Operation of all fixtures and control lighting verified. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *I* | *CONTROLS INSTALLATION* | | | | |
| 1 | Interior and floor control panels installed and labeled properly. | | | YES | NO |
| 2 | Remote start and stop wiring installed and communication verified. | | | YES | NO |
| 3 | Remote status wiring installed and communication verified. | | | YES | NO |
| 4 | Remote alarm wiring installed and communication verified. | | | YES | NO |
| 5 | Call operations verified and operational at each landing. | | | YES | NO |
| 6 | Emergency stop operation verified. | | | YES | NO |
| 7 | Emergency recall sequence verified and acceptable. | | | YES | NO |
| 8 | Power failure sequence verified and acceptable. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

| **Group/Item** | **Group/Task Description** | | | **Response** | |
| --- | --- | --- | --- | --- | --- |
| *J* | *MECHANICAL STARTUP* | | | | |
| 1 | All hardware connections verified to be secure. | | | YES | NO |
| 2 | Unit stops level with floor sill at each landing. | | | YES | NO |
| 3 | All protective films and covers removed. | | | YES | NO |
| 4 | Rate of travel adjusted to ensure smooth acceleration and deceleration. | | | YES | NO |
| 5 | All unit bearings and shafts have been lubricated per manufacturer recommendations. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |
| *K* | *ACCEPTANCE TESTING* | | | | |
| 1 | Acceptance testing per ASME A17.1 and governing authorities performed and acceptable. | | | YES | NO |
| 2 | Certificates and permits for operation delivered to owner. | | | YES | NO |
| **❑ CHECKLIST GROUP COMPLETE** | | **INITIALS:** |  | **DATE:** |  |

**Negative Responses**

| **Group/**  **Item** | **Date**  **Found** | **Found**  **By** | **Reason for Negative Response** | **Resolved** | **Date**  **Resolved** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |
|  |  |  |  | **YES / NO** |  |  |