

## APPENDIX 10

### Elevator Maintenance Specification

#### **I. SCOPE OF SERVICE**

The work shall include but not limited to providing all supervision, labor, coordination, materials, repair parts, replacement components, supplies, tools, equipment, and all incidentals required and/or implied for the complete satisfaction, maintenance, testing and repair of specified elevators, dumb waiters and lifting devices at Shippensburg University. Maintenance, testing and repair shall include but is not limited to routine maintenance, preventive maintenance, inspections and examinations, testing, repairs and necessary modifications and overhauls as required to keep the specified elevators, dumbwaiters, and lifting devices in a fire class, safe operating condition in compliance with all local, state, and federal ordinances, laws and regulations.

#### **II. FULL ELEVATOR SERVICE - MAINTENANCE AND REPAIRS**

The work includes, monthly, quarterly, semi-annual and annual regularly scheduled preventive maintenance inspections, servicing, examinations, repairs, overhauls and necessary modifications for elevators listed on Attachment One, Elevator Inventory, as identified below and or specified/recommended by the manufacturer in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937). The elevator service contractor shall include in the work all supervision, labor, coordination, materials, repair parts, replacement components, supplies, tools, equipment, and all incidentals required and/or implied for the complete satisfaction, maintenance, testing and repair of specified elevators, dumb waiters and lifting devices and is to be provided for one fixed annual price to be paid as specified by this request for proposal.

All annual testing in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937) shall be performed on all elevators not later than the first quarter of each contract year. The costs for all testing are to be included in this request for proposal including all specified options and/or alternates.

**A. Regularly Scheduled Preventive Maintenance, Inspections, Examinations, and Servicing:** The elevator service contractor shall perform regular scheduled preventive maintenance servicing and inspections at a minimum frequency as specified in this request for proposal and recommended by the elevator manufacturer. Work to include but not limited to routine maintenance, cleaning, adjusting, and lubricating all machines, motor, generator and controller parts, and all necessary equipment as necessary for the proper safe operation of the elevators. A report of each maintenance service shall be submitted with each monthly invoice statement. Failure of the elevator service contractor to submit reports shall delay payment until such report is submitted.

**B. Quarterly Scheduled Preventive Maintenance, Inspections, Examinations and Servicing:** The elevator service contractor shall conduct quarterly examinations of equipment performance, including car speed, door operation, riding quality, car leveling, floor to floor time, and system operation, including traffic handling and

## APPENDIX 10

### Elevator Maintenance Specification

response time. The scheduled preventive maintenance, inspections, examinations and servicing shall be designed to identify equipment and conditions for the purpose of determining and performing corrective actions which may be required to maintain the normal and safe operation of the equipment. The preventive maintenance, inspections, examinations and servicing shall be in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937)

**1. ELEVATORS:** The elevator service contractor shall perform quarterly preventive maintenance, inspections, examinations and servicing which shall include cleaning, adjusting, maintaining and repairing or replacing the following as required and specified:

- a. Examination of hoistway and car doors or gates and their operating, locking, travel and contact devices including but not limited to:
  - hoistway doors
  - hoistway door or gate interlocks
  - locking functions and closed position
  - hoistway door interlocks-auxiliary locks
  - hoistway door or gate-separate or combination mechanical locks and electric contacts
  - power door operation, door motors and associated hardware
  - car door or gate and electric contacts
  - emergency doors in blind hoistways
  - emergency-release switch in car
  
- b. Examinations made from inside the car including but not limited to:
  - car enclosures
  - car illumination
  - operating and control devices
  - car floor, sills, and landing sills
  - protection of projections and recesses in hoistways
  - car emergency signals for elevators
  
- c. Examinations made outside of hoistway including but not limited to:
  - hoistway enclosures and doors
  - hoistway access switches
  - parking devices and hoistway door unlocking devices
  - rope and rope fastening inspection-counterweights in separate hoistways
  - car platform guard (aprons)
  
- d. Examinations made from top of car including but not limited to:
  - counterweights and counterweights buffer
  - wire rope fastenings and sheaves
  - wire rope inspection

## APPENDIX 10

### Elevator Maintenance Specification

- wire rope lubrication
  - normal terminal stopping devices
  - car and counterweight horizontal clearances
  - car and counterweights guide rails, rail fastenings, car crossheads and car guiding members
  - hoistway and car door and gate hangers and associated equipment
  - top of car operating devices and working platforms
  - governor-rope releasing carrier
  - car-leveling devices
  - hoistway junction box and traveling cables
  - protection and projection and recesses in hoistways
  - floor numbers
  - installation of pipes, wiring, and ducts in hoistway
  - hoistway protection in case of fire
  - car door motors and associated hardware
- e. Examinations made in overhead machinery space and in machine room including but not limited to:
- inspection of wire rope and rope fastenings
  - overhead secondary and deflecting sheaves
  - top counterweight clearances
  - overhead beams and fastenings
  - speed governor
  - traction driving sheave
  - guards of exposed equipment
  - elevator machines including winding drum machines
  - gears and bearings
  - driving machine brake including but not limited to magnet coils, shoes lining and pins
  - motor-generator sets and/or solid state motor drives
  - controller mechanisms, wiring and fuses
  - brushes and commutators
  - windings and coils
  - contacts, contactors and relays
  - resistors and transformers
  - solid state devices
- f. Examinations made in pit including but not limited to:
- pit, pit stop switch and pit lamp
  - car and counterweight oil buffers
  - car counterweight spring buffers
  - counterweight guards
  - car pit buffers
  - speed governor rope tension sheave

## APPENDIX 10

### Elevator Maintenance Specification

- final terminal stopping switch
  - bottom car and counterweight run-by and clearance traveling cable
  - car frame(sling) and platform
  - cleanliness of pit (pit must be kept clean)
- g. Repair or replace control cables when conditions warrant
- h. Replace roller guides or gibs when conditions warrant
- i. Relamp all signals during regular examinations
- j. Furnish all lubricants
- k. Examine and clean, lubricate and adjust when conditions warrant
- l. Repair or replace safety devices when conditions warned including but not limited to:
- Interlocks
  - Door closers
  - Overspeed governors
  - Limit landing and slowdown switches
  - Door protective devices
  - Alarms
- m. Replace all wire ropes and fastenings when conditions warrant
- n. Repair or regrove, when conditions warrant all sheaves and sheave assemblies, including drive, governor, tension, secondary or deflection sheaves
- o. Examine. Lubricate adjust and when conditions warrant repair or replace accessory equipment including but not limited to
- Car or corridor stations
  - Car and corridor hangers and tracks and door operating devices
  - All door gibs
  - Car fan motors
- p. Regularly schedule hatch cleaning, including rails, inductors tape, hatch door hangers and tracks, relating devices, switches, buffers and car tops
- q. Dismantle brake, lunger assembly examine and replace work or broken parts, clean lubricate, reassemble and adjust for proper operation,
- r. Examination of additional items applicable to hydraulic elevators including but not limited to:
- pumps
  - drives/motors
  - relief and check valves
  - flexible hydraulic hose(s) and fitting(s)
  - storage and discharge tanks
  - drip pans
  - pipe lines
  - control valves
  - plungers
  - plunger fasteners
  - operating valves

## APPENDIX 10

### Elevator Maintenance Specification

#### 2. **UNSAFE CONDITIONS**

If at any time during the elevator service contractor examinations any elevator is found to be unsafe the contractor shall be responsible to discontinue elevator operation and notify Shippensburg University immediately followed by a written report of the conditions encountered. If the elevator service contractor takes an elevator out of service due to unsafe conditions the elevator service contractor shall immediately initiate repairs in accordance with The Repair Services paragraph below.

#### 3. **CODE DEFICIENCIES**

The elevator service contractor shall be responsible for correction of all deficiencies identified during any regulatory agency inspection of the elevator, dumbwaiters and/or lifting device identified by this specification. Correction of the deficiency shall be performed in a timely manner so as not to cause any additional deficiencies, shutdown of the elevator or regulatory agency citations or fines.

#### 4. **WRITTEN REPORTS**

Not later than 10 days following each quarterly examination (evaluation) of each elevator, a written report of the results of the examination shall be submitted specified here-with-in this specification. The written report shall include a copy of the checklist used to perform the examination, annotated with checklist. The report shall include a statement of the adjustments, repairs, and replacements, of parts and components made or required to maintain the elevators in safe operating condition in accordance with this specification, manufacturers original standards and in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937).

#### 5. **REPAIR SERVICES**

The elevator service contractor shall provide all repairs, modifications, and overhauls which are to be required to keep the elevator, dumbwaiter and/or lifting device systems in first class operating condition in accordance with manufacturers recommendations, guidelines, specifications and in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937). The elevator service contractor shall initiate a repair call and provide repair services when repairs are found to be required during routine preventive maintenance, inspections, evaluations, examinations, inspections and testing. The elevator service contractor shall provide repair services when Shippensburg University reports any system as down or out of service or needing attention and or repairs.

### III. **HOURLY RATE WORK**

Repairs which are needed as a result of vandalism, acts of God, new work or items excluded from this specification are to be included in Hourly Work Rate and shall be performed on an hourly rate basis by the qualified elevator mechanics and helpers as required. All other work except for five year testing shall be included in the full elevator scope of service as specified for one lump sum. Hourly rate work shall be performed as authorized by Shippensburg University by the specified personnel at the

## APPENDIX 10

### Elevator Maintenance Specification

hourly rate as bid, with materials and parts to be purchased from this elevator service contractor and others. The parts and materials are to be at cost to the contractor with no mark-ups (overhead/profits/percentages). Shippensburg University reserves the right to bid separately and award any of these repair projects if the estimates proposed by the elevator service contractor are determined by Shippensburg University to be too high.

#### **A. Vandalism and Acts of God:**

When there is a question regarding a repair that appears to be vandalism and not equipment failure due to normal use, Shippensburg University, in coordination with the Elevator service contractor, shall make a joint review of the available facts. The facts shall be reviewed and a determination as to whether a repair need is the result of vandalism, or an equipment malfunction, failure, or wear by time and usage. Shippensburg has the final determination as to what category the repair shall be performed under; however Shippensburg University is responsible for justifying the reasons for its final determination. If an elevator out of order call should occur when The Physical Plant Facilities Management and Planning is closed, then the elevator service contractor shall perform such actions as necessary to return the elevator to normal working condition. The facts of how the elevator failed shall be reviewed and determination regarding vandalism, and acts of God shall be made at a later date as detailed in this specification.

#### **B. Work Not Included:**

Items not listed in this specification shall be repaired, replaced, or renovated under the specification of Hourly Rate of Work at the rates specified by the bid.

1. **Hourly Rate Determination:** when the Elevator Service Contractor is determining the hourly rate for this specification they should consider all costs associated with providing "one hour" of labor on site at Shippensburg University including but not limited to labor, travel time, transportation, shipping and equipment costs, overhead and profit. The elevator service contractor shall not include the cost of supplies, materials or repair parts and component as they are to be paid at cost by Shippensburg University for work done under Hourly Rates with no mark-up included. No overhead shall be included in the "half" for time and half rate.
2. **Additional Costs:** no other costs or mark-up will be billed by the Elevator Service Contractor of acceptance by Shippensburg University.

#### **C. Time Paid**

Hourly work shall start upon arrival sign-in at Shippensburg University and end upon sign-out, not including travel time, mealtime, or other stoppages of actual work. This shall be rounded to the nearest 1/2 hour.

#### **D. Overtime Rates:**

## APPENDIX 10

### Elevator Maintenance Specification

Any time over eight hours per day, forty hours per week (week ending Friday) and Saturdays, Sundays and major Holidays shall be considered overtime. The rate shall be as stated in the bid and be at hourly rate plus 1/2 rate. The Elevator Service contractor shall not include overhead in the "half" time portion of the time and half rate. Overhead shall only be included in the straight (regular) time portion of the rate.

#### **E. Estimates For Hourly Work**

Estimates for hourly work shall be submitted at the request of Shippensburg University. The Elevator Service Contractor shall prepare and submit a written estimate of the labor, equipment, and/or materials which will be required to perform the repair ( as agreed upon by Shippensburg University) in accordance with the terms and conditions of this specification.

1. This work may then be performed only with Shippensburg University's written acceptance of the estimate. Upon authorization, actual work shall not exceed the Elevator Service Contractor's estimate by 10% and then only with adequate justification by the Elevator Service contractor and written approval by Shippensburg University for the overages.
2. Shippensburg University reserves the right to ask or obtain other estimates prior to authorizing the elevator Service contractor to Proceed, in order to comply with the State Regulations to determine price reasonableness. If the estimate is considered not to be reasonable, the Elevator Service Contractor will be asked to revise his estimate and re-submit. If the revised estimate is still considered to be high Shippensburg University reserves the right to obtain the work from other sources.

### **IV. FIVE YEAR TESTING, TRACTION ELEVATORS**

#### **A. Test Requirements**

The Elevator Service Contractor shall provide all labor, tools, supervision, and coordination. equipment, weights supplies, materials and all necessary items as required to perform "Five Year Testing as required in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937). The testing shall be performed as required during the period of this specification/contract for those elevators whom require said testing. The Elevator Service Contractor shall send written notification to the Commonwealth of Pennsylvania Department of Labor and Industry, elevator Division that the testing has been performed and post the required metal tag with date of inspection and name of the company performing the inspection.

#### **B. Coordination and Bid**

## APPENDIX 10

### Elevator Maintenance Specification

All timeframes for testing shall be coordinated with the Elevator Inspector for Shippensburg University. Shippensburg University may be contacted for the name of the Elevator Inspector that coordination may be initiated that the Elevator Inspector shall observe all tests. The five-year testing shall be performed on a lump sum rate per elevator.

## **V. GENERAL REQUIREMENTS**

### **A. Procedure for Repair Calls/Down Call**

All repair work of down calls shall be on a "call" basis, where the Elevator Service Contractor shall respond to an emergency call within 4 hours and a non-emergency call within 8 hours. Emergencies will be determined by Shippensburg University at the time the problem occurs and will normally be based on the nature of the problem, the time, the building occupancy and other factors. The time frame of response begins at the time the call is place to the Elevator Service Contractor.

1. The Elevator Service Contractor shall provide a 24 hour phone number to Shippensburg University to be used for notification of repair calls/down calls
2. All wiring and circuit changes and modifications made by the elevator Service Contractor during such work here in specified shall be clearly indicated on the schematic wiring diagram for the elevator.

### **B. Reports**

The Elevator Service Contractor shall submit a written report of each maintenance visit, each repair visit, and each testing visit at the timeframes specified herein. Each report may be made on the Elevator Service Contractor's form to be approved by Shippensburg University and shall include at a minimum the following information:

1. Company Name, Mechanics name, Helpers name (as applicable), Time, Date, and Length of service performed.
2. Identification of Elevator Services; Checklist of examinations made and work performed; type and quantity of material and parts used.
3. Certification that all work was performed in accordance with the specifications and in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937) signed by the mechanic or who performed the work or his authorized supervisor.
4. Needed repair work, problems, failure, or malfunction discovered during the repair maintenance.
5. Recommendation for extra inspection and testing as required in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937).

### **C. Elevator Files/Records**

The Elevator Service Contractor shall keep and maintain a complete file on each elevator, dumbwaiter, and/or lifting device to contain accurate records of all



## APPENDIX 10

### Elevator Maintenance Specification

maintenance calls, inspections, testing and repairs, including parts used, and all wiring, circuit changes and modifications made. These files shall be made available to Shippensburg University upon request and shall be turned over to Shippensburg University annually and at the end of this specification contract.

#### **D. Quality of Workmanship**

All work shall be quality work performed according to the standards of the elevator industry an to the complete satisfaction of Shippensburg University in accordance with the latest version of ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937). The Elevator Service Contractor shall establish and follow a quality control program for the purpose of identifying and correcting deficiencies in the work before the level of service becomes unacceptable to Shippensburg University. This quality control program shall be submitted to Shippensburg University no later than 14 days after award of this specification/contract. Except as specified otherwise elevators shall be maintained to operate in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937) specified levels or better. The Elevator Service Contractor shall be able to demonstrate his ability to satisfactorily maintain and repair elevators of the type and to the degree specified herein.

#### **E. Material Specification**

All materials and parts provided by the Elevator Service Contractor under the resultant specification/contract shall be new, of equalivant material strength and design as the material of part replaced and shall be manufactured by or recommended by the manufacturer of the original equipment being serviced.

#### **F. Personnel Qualifications**

All personnel used by the Elevator Service Contractor of the performance of this work shall be properly trained and qualified for work of this type and shall have the minimum ability and experience required for his/her work. Shippensburg University reserves the right to refuse to accept services from any personnel deemed by Shippensburg University to be unqualified, disorderly unable to perform work in a professional manner or otherwise unable to perform work. The Elevator Service Contractor shall provide evidence of qualifications for any personnel performing work under the specification/contract at the time of the proposal submission and again each time a new employee is assigned to work under this contract.

##### **1. Elevator Mechanic**

Shall be an experienced (minimum of five years) elevator mechanic with the ability to independently perform maintenance, repair, and modifications to the types of elevators included in this contract. Shall be able to analyze equipment, troubleshoot to determine malfunctions and the capability to make required repairs. Shall have a through knowledge of

## APPENDIX 10

### Elevator Maintenance Specification

the equipment, codes and standards of the industry in accordance with ANSI/ASME A17 and 34 PA Code Chapter 7 and Elevator Regulation Law P.L. 277 No. 69 (April 8, 1937). Shall be equipped with all tools and equipment necessary for this work including transportation to and from worksheets. The Elevator Service Contractor shall provide adequate written documentation to the satisfaction of Shippensburg University of the qualifications, education, training and ability of all elevator mechanics as specified herein.

#### **2. Mechanic Helper**

Shall be an Apprentice or Assistant Level Elevator Mechanic (written training program to be submitted to Shippensburg University detailing program including but not limited to when training began and when under the category will end) with the ability to assist in all types of elevator maintenance, repair, and modifications under the supervision of an Elevator mechanics. Shall be equipped with all tools and equipment necessary for this work including transportation to and from worksites. The Elevator Service Contractor shall provide adequate written documentation to the satisfaction of Shippensburg University of the qualifications, education, training and ability of all elevators Mechanic Helpers as specified herein.

#### **G. Deletion/Addition of Elevators**

Shippensburg University may find it necessary at times to delete and or add an elevator during the term of this specification/contract agreement. In order for a fair and reasonable price to be determined under such circumstances, the Elevator Service Contractor is requested to place in the designated blanks (\$\_\_\_\_\_ ) on the Elevator Inventory of Attachment One a dollar amount for a period of one month regarding each type of elevator, that may be added or deleted from the original specification/contract pricing. The deletion price shall be that monthly amount cited by the Elevator Service Contractor on the elevator inventory. Should an elevator be added during the term of this specification/contract the dollar amount cited on the Elevator Inventory for the elevator description determined by Shippensburg University, most closely matching the new elevator shall be used as a fair and reasonable monthly price through completion year of the specification/contract.

#### **H. Work Hours**

The specific dates and time of maintenance visits shall be scheduled in coordination with Shippensburg University. Unless coordinated in advance, all scheduled maintenance work shall be performed between the hours of 7:30 am and 4:00 pm

#### **I. Parking**

All vehicles shall be clearly identified as belonging to the Elevator Service Contractor or shall clearly display Shippensburg University parking permits.

## APPENDIX 10

### Elevator Maintenance Specification

Parking permits may be obtained from Shippensburg University Police Department.

#### **J. No Smoking Policy**

Shippensburg University has a written policy that prohibits smoking in University Buildings. The Elevator Service Contractor is responsible to assure that all employees comply with this policy.

#### **K. Hazardous Materials**

All hazardous materials shall be handled, utilized and disposed of in accordance with all local, state, and federal regulations, codes, rules, laws and ordinances.

#### **L. Storage**

Shippensburg cannot provide any storage space or storage system for use by the Elevator Service Contractor.