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WOASIS	Jump to: PRCUID 🟦 Go 😚 Home 🌽 Personalize 🚳 Accessibility 📴 App Help 🌾 About
Norme, Robert M Ross	Procurement Budgeting Accounts Receivable Accounts Payable
blicitation Response(SR) Dept: 0403 ID: ESR01312200000004560 Ver.: 1 Function: New Phase: Final Modified by batch , 02/02/2022	
Header () 5	
General Information Contact Default Values Discount Document Information Clarification Request	E List View
Procurement Folder: 987023	SO Doc Code: CRFQ
Procurement Type: Central Master Agreement	SO Dept: 0403
Vendor ID: VC0000004958	SO Doc ID: DBS220000004
Legal Name: EASTERN ELEVATOR SERVICE AND SALES COMPANY	Published Date: 1/28/22
Alias/DBA:	Close Date: 2/2/22
Total Bid: \$72,540.00	Close Time: 13:30
Response Date: 01/31/2022	Status: Closed
Response Time: 15:05	Solicitation Description: Elevator Preventative & Corrective Maintenance
Responded By User ID: Mary.Burkhard	Total of Header Attachments: 5
First Name: Mary	Total of All Attachments: 5
Last Name: Burkhard	
Email: mary.burkhard@easterne	
Phone: 814-467-8350	



Department of Administration Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

## State of West Virginia Solicitation Response

Proc Folder:	987023	987023						
Solicitation Description:	Elevator Preventative & Corrective Maintenance							
Proc Type:	Central Master Agreement							
Solicitation Closes		Solicitation Response	Version					
2022-02-02 13:30		SR 0403 ESR01312200000004560	1					

VENDOR					
VC0000004958 EASTERN ELEVATOR S	SERVICE AND SALES COMPANY				
Solicitation Number:	CRFQ 0403 DBS2200000004				
Total Bid:	72540	Response Date:	2022-01-31	Response Time:	15:05:50
Comments:					

FOR INFORMATION CONTACT THE BUYER Joseph E Hager III (304) 558-2306 joseph.e.hageriii@wv.gov			
Vendor Signature X	FEIN#	DATE	

All offers subject to all terms and conditions contained in this solicitation

Comm Ln Desc		Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
Elevator Maintenance S	ervices	1.00000	EA	72540.000000	72540.00
Code	Manufacturer		Specifica	ition	Model #
)6					
		Elevator Maintenance Services Code Manufacturer	Elevator Maintenance Services 1.00000 Code Manufacturer	Elevator Maintenance Services     1.00000     EA       Code     Manufacturer     Specification	Elevator Maintenance Services     1.00000     EA     72540.000000       Code     Manufacturer     Specification

#### **Commodity Line Comments:**

#### **Extended Description:**

\*\*If Vendor is submitting bid online, Vendor must upload and attach the Exhibit C-Pricing Page. Vendor should enter Total Cost from Exhibit C-Pricing Page as the amount bid in wvOASIS commodity line when submitting online.

#### **EXHIBIT C - PRICING PAGES**

#### **Preventive Maintenance:**

Monthly Charge	Х	12 months	=	Total Yearly Charge
\$ <u>1,320.00</u>	Х	12	=	\$_15,840.00
<b>Corrective Maintenance:</b>				
Hourly Labor Rate	Х	Estimated Hours	=	Total Labor Cost
\$_231.00	X	200	=	\$_46,200.00
Estimated Parts Cost	Х	Multiplier	=	Total Parts Cost
\$10,000.00	X	1.05	=	\$_10,500.00

Total Cost \* \$ 72,540.00

\* Total Cost is calculated by adding the Total Yearly Cost, Total Labor Cost, and the Total Parts Cost. Quantities are estimated and are for bid purposes only.

These prices were provided by Eastern Elevator Service & Sales, Co., 518 Verla Drive Windber, PA 15963

#### ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.: CRFQ DBS22\*04

**Instructions:** Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

#### Addendum Numbers Received:

(Check the box next to each addendum received)

[ ]	( ]	Addendum No. 1	[	]	Addendum No. 6
[	]	Addendum No. 2	[	]	Addendum No. 7
[	]	Addendum No. 3	[	]	Addendum No. 8
[	]	Addendum No. 4	[	]	Addendum No. 9
[	]	Addendum No. 5	[	]	Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Eastern Elevator Service & Sale	s, Co.
Company	BRIAN K. OTT
3-XOM	CONTRACTS MSR.
	d Signature
31 JANUARY	2022
Date	

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing. Revised 6/8/2012

Agency\_\_\_\_\_ REQ.P.O#

#### **BID BOND**

ALL MEN BY THESE	PRESENTS, That	we, the undersigned, _	Eastern Elevator	Service & Sales Company
Windber	Pen	nsylvania	, as Principal, and	Arch Insurance Company
Philadelphia	Pennsylvania	, a corporation or		under the laws of the State of
with its principal off	ice in the City of	Pennsylvania		d and firmly bound unto the State
, as Obligee, in the pe	nal sum of five per	cent of the amount bid		) for the payment of which,
	Windber Philadelphia with its principal off	Windber     Pen       Philadelphia     Pennsylvania	PhiladelphiaPennsylvania, a corporation or, with its principal office in the City ofPennsylvania	Windber       Pennsylvania       , as Principal, and _         Philadelphia       Pennsylvania       , a corporation organized and existing

well and truly to be made, we jointly and severally bind ourselves, our heirs, administrators, executors, successors and assigns.

The Condition of the above obligation is such that whereas the Principal has submitted to the Purchasing Section of the Department of Administration a certain bid or proposal, attached hereto and made a part hereof, to enter into a contract in writing for Elevator Proventative and Corrective Maintenance

Corrective Maintenance	
Solicitation No.: CRFQ 0403 DBS 2200000001	

West Virginia School for the Deaf and The Blind, 301 East Main St., Romney, WV 26757

NOW THEREFORE,

(a) If said bid shall be rejected, or

(b) If said bid shall be accepted and the Principal shall enter into a contract in accordance with the bid or proposal attached hereto and shall furnish any other bonds and insurance required by the bid or proposal, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be null and void, otherwise this obligation shall remain in full force and effect. It is expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for the value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid, and said Surety does hereby waive notice of any such extension.

WITNESS, the following signatures and seals of Principal and Surety, executed and sealed by a proper officer of Principal and Surety, or by Principal individually if Principal is an individual, this <u>26th</u> day of <u>January</u>, 20 22

**Principal Seal** 

Eastern Elevator Service & Sales Company (Name of Principal) By (Must be President Vice President )or Duly Authorized Agent) (Title)

Arch Insurance Company

(Name of Surety) Attor

IMPORTANT – Surety executing bonds must be licensed in West Virginia to transact surety insurance, must affix its seal, and must attach a power of attorney with its seal affixed.

Surety Seal

#### This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.

#### POWER OF ATTORNEY

Know All Persons By These Presents: That the Arch Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

#### Tammy L. Masterson of Louisville, KY

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed: Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars (\$90,000,000.00). This authority does not permit the same obligation to be split into two or more bonds In order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on December 10, 2020, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on December 10, 2020:

VOTED, That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on December 10, 2020, and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company. In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 21st day of Insurance July, 2021.

> CORPORATE SEAL 1971

Acreh

Attested and Certified

Regan A. Shulman, Secretary

STATE OF PENNSYLVANIA SS COUNTY OF PHILADELPHIA SS

I, Michele Tripodi, a Notary Public, do hereby certify that Regan A. Shulman and Stephen C. Ruschak personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed, sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

lssouri

Commonwealth of Pennsylvania - Notary Seal MICHELE TRIPODI, Notary Public Philadelphia County My Commission Expires July 31, 2025 Commission Number 1168622

Michale Tripodi, Notary Public

Stephen C. Ruschak, Executive Vice President

My commission expires 07/31/2025

Arch Insurance Company

CERTIFICATION

I, Regan A. Shulman. Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated July 21, 2021 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in full force and effect since the date thereof and is in full force and effect on the date of this certificate; and I do further certify that the said Stephen C. Ruschak, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this 26thday of January, 20 22

Regen A. Shulman, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS: Arch Insurance - Surety Division 3 Parkway, Suite 1500 Philadelphia, PA 19102



To verify the authenticity of this Power of Attorney, please contact Arch insurance Company at SuretyAuthentic@archinsurance.com Please refer to the above named Attorney-in-Fact and the details of the bond to which the power is attached.



#### CERTIFICATE OF LIABILITY INSURANCE

SJENNINGS DATE (MM/DD/YYYY)

**UEINVES-01** 

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	DUCER					Skylar J				
	isville / AssuredPartners NL 5 River Road				PHONE (A/C, No, I	<sub>Ext):</sub> (812) 2	206-5509 15	509 FAX (A/C, No)		
	lisville, KY 40206				E-MAIL ADDRESS	<sub>:</sub> skylar.je	ennings@as	ssuredpartners.com		
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							of London			
NSI	JRED							e Company		25623
	Eastern Elevator Service an 518 Verla Dr.	d Sa	les C	ompany				surance Company		21199
	Windber, PA 15963-4806						r Oak Fire I	nsurance Co		25615
					INSURER					
20	VERAGES CER	TIFI	САТЕ	E NUMBER:	INSURER	г.		<b>REVISION NUMBER:</b>		
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١N	NDICATED. NOTWITHSTANDING ANY R	EQU	IREM	ENT, TERM OR CONDITIO	ON OF AN	Y CONTRA	CT OR OTHER	R DOCUMENT WITH RESP	ECT TO	WHICH THIS
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	CLAIMS-MADE X OCCUR			B0595XN6662021		3/1/2021	3/1/2022	DAMAGE TO RENTED PREMISES (Ea occurrence)	\$	50,000
								MED EXP (Any one person)	\$	Included
								PERSONAL & ADV INJURY	\$	3,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREGATE	\$	3,000,000
	POLICY X PRO- JECT LOC							PRODUCTS - COMP/OP AGG	\$	3,000,000
в	OTHER:							COMBINED SINGLE LIMIT	\$	1,000,000
5	AUTOMOBILE LIABILITY			8108R8969002114G		3/15/2021	3/15/2022	(Ea accident)	\$	1,000,000
	X ANY AUTO OWNED SCHEDULED AUTOS ONLY AUTOS			0100R0909002114G		3/13/2021	3/15/2022	BODILY INJURY (Per person)	\$ ) \$	
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	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED?	N/A		UB8R9039322114G		3/15/2021	021 3/15/2022	E.L. EACH ACCIDENT	\$	1,000,000
	(Mandatory in NH) If yes, describe under							E.L. DISEASE - EA EMPLOYE	Е\$	1,000,000
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					ACCO	KDANCE W	ITH THE POLI	CY PROVISIONS.		
					AUTHORI	ZED REPRESE				

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AGENCY CUSTOMER ID:	UEINVES-01
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LOC #: 1



#### ADDITIONAL REMARKS SCHEDULE

Page 1 of 1

**SJENNINGS** 

AGENCY Louisville / AssuredPartners NL		NAMED INSURED Eastern Elevator Service and Sales Company 518 Verla Dr. Windber, PA 15963-4806
POLICY NUMBER		
SEE PAGE 1		
CARRIER	NAIC CODE	
SEE PAGE 1	SEE P 1	EFFECTIVE DATE: SEE PAGE 1
ADDITIONAL REMARKS		

#### THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Description of Operations/Locations/Vehicles: Carrier: Lloyd's of London Eff: 3/1/21 - 3/1/22 Limit: \$1,000,000 Policy #: B059XN6663021

Excess Liability - \$3M xs \$6M xs Primary Carrier: AXIS Surplus Insurance Co. Eff: 3/1/21 - 3/1/22 Limit: \$3,000,000 Policy #: P00100048891101 WV-73 Approved / April 30, 2020



#### State of West Virginia DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT West Virginia Code §21-1D-5

I, BRIAN K. DTT, after being first duly sworn, depose and state as follows:

- 1. I am an employee of Eastern Elevator Service & Sales, Co. ; and, (Company Name)
- 2. I do hereby attest that Eastern Elevator Service & Sales, Co. (Company Name)

maintains a written plan for a drug-free workplace policy and that such plan and policy are in compliance with **West Virginia Code** §21-1D.

The above statements are sworn to under the penalty of perjury.

Printed Name: BRIAN K. OTT
Signature: BX Dto
Title: CONTRACTS MANAGER
Company Name: Eastern Elevator Service & Sales, Co.
Date: 31 JANUARY 2022

STATE OF WEST VIRGINIA,

COUNTY OF Somerset	, TO-WIT:
Taken, subscribed and sworn to before m	e this 31st day of January, 2022.
By Commission expires 10 24 22	/
(Seal)	(Notary Public)
	Commonwealth of Pennsylvania - Notary Seal MARY E BURKHARD - Notary Public Somerset County My Commission Expires Oct 24, 2022 Commission Number 1190288

# **Eastern Elevator Drug Prevention Plan** January 2017 EASTERNELEVAT Rø

### **Drug Prevention Plan**

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#### DRUG PREVENTION PLAN

#### SECTION I - INTRODUCTION

#### A. <u>Prohibited Drug Policy.</u>

1. Eastern Elevator Service and Sales Co. has a long-standing commitment to maintain the highest standards for employee safety and health and the use of controlled substances is contrary to these high standards. Furthermore, Eastern Elevator Service and Sales Co. has a vital interest in maintaining a safe, healthy and efficient working environment. Being under the influence of a drug or alcohol on the job poses serious safety and health risks to the user and to all those who work with the user. The use, sale, purchase, transfer or possession of an illegal drug in the workplace and the use, possession or being under the influence of alcohol also poses unacceptable risks for safe, healthy and efficient operations.

2. Eastern Elevator Service and Sales Co. further expresses its intent through this policy to comply with federal and state rules, regulations or laws that relate to the maintenance of a workplace free from illegal drugs and alcohol. The purpose of the drug prevention plan is to reduce accidents that result from the use of controlled substances, thereby reducing fatalities, injuries, and property damage. Eastern Elevator has the right and obligation to maintain a safe, healthy and efficient workplace for all of its employees and to protect the organization's property, information, equipment, operations and reputation.

3. Eastern Elevator Service and Sales Co. recognizes its obligations to its clients for the provision of services that are free of the influence of illegal drugs and alcohol and will endeavor through this policy to provide drug-free and alcohol-free services.

4. The presence in the body of prohibited substances is not condoned. As a condition of employment, all employees are required to abide by the terms of this policy and to notify the management of Eastern Elevator Services and Sales Co. of any criminal drug statute conviction for a violation occurring in the workplace no later than five (5) days after such conviction.

#### B. Implementation of Drug prevention plan.

1. Eastern Elevator Service and Sales Co. has implemented the Research and Special Programs Administration, Drug Testing Regulations as set forth in 49 CFR Part 199 and the Department of Transportation, Procedures for Transportation Workplace Drug Testing Programs as set forth in 49 CFR Part 40.

2. Implementation of the drug prevention plan was originally effective on October 2007. This policy amends the original policy.

#### C. Background.

1. The catalyst for the drug prevention plan is Title 49 Code of Federal Regulations (CFR) Part 199 which requires Eastern Elevator Service and Sales Co.'s subject to 49 CFR Parts 192, 193, and 195, and their contractors to test their employees for prohibited drugs under the following work-related conditions:

- a. Pre-Employment
- b. Post-Accident
- c. Random
- d. Reasonable Cause
- e. Return-to-Duty

2. Title 49 CFR Part 40 specifies procedures which must be followed by Eastern Elevator Service and Sales Co. when conducting drug testing pursuant to regulations issued by agencies of the Department of Transportation (DOT).

**<u>NOTE:</u>** Specific Definitions: Eastern Elevator Service and Sales Co. must address the definition of "accident" under § 191.3 and/or § 195.50 and the definition of a "Covered Employee." The remaining definitions listed in Section D are optional; however, they may provide further clarification for employees on a number of common terms used throughout this drug prevention plan.

#### D. Definitions.

For purposes of this drug prevention plan the following definitions apply:

- Accident means a reportable incident as follows:
- a. Death of any person.
- b. Bodily harm to any person resulting in one or more of the following:
  - Loss of consciousness.
  - Necessity to carry the person from the scene.
  - Necessity for medical treatment or testing.
  - Disability, which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.
- c. Estimated property damage, including cost of clean-up and recovery, value of lost product and damage to the property of Eastern Elevator Service and Sales Co. or others, or both, exceeding \$1.000.
- d. An event that results in an emergency shutdown of Eastern Elevator Service and Sales Co.
- e. An event that is significant, in the judgment of Eastern Elevator Service and Sales Co., even though it did not meet the criteria of paragraphs (1) or (2).

2. <u>Alcohol</u> — any beverage that contains ethyl alcohol (ethanol), including but not limited to beer, wine and distilled spirits.

3. <u>Blind Sample</u> — a urine specimen submitted to a laboratory for quality control testing purposes, with a fictitious identifier, so that the laboratory cannot distinguish it from employee specimens, and which is spiked with known quantities of specific drugs or which is blank, containing no drugs.

4. <u>Chain-of-Custody</u> — procedures to account for the integrity of each urine specimen by tracking its handling and storage from point of specimen collection to final disposition of the specimen. These procedures shall require that an appropriate drug testing custody form from a Department of Health and Human Services (DHHS) certified laboratory be used from time of collection to receipt by the laboratory.

5. <u>Collection Site</u> — a designated clinic/facility where applicants or employees may present themselves for the purpose of providing a specimen of their urine to be analyzed for the presence of drugs.

6. <u>Collection Site Person</u> — a person who instructs and assists applicants and employees through the specimen collection process.

7. <u>Contraband</u> — any article, the possession of which on the premises of Eastern Elevator Service and Sales Co. or while on business of Eastern Elevator Service and Sales Co. causes an employee to be in violation of the work rule of Eastern Elevator Services and Sales Co. or the law. Contraband includes illegal drugs and alcoholic beverages, drug paraphernalia, lethal weapons, firearms, explosives and stolen property.

8. <u>Eastern Elevator Service and Sales Co.</u> — an organization or commercial enterprise that uses this drug prevention plan.

9. <u>Confirmation Test</u> — a second analytical procedure to identify the presence of a specific drug or metabolite which is independent of the initial test and which uses a different technique and chemical principle from that of the initial test in order to ensure reliability and accuracy. Gas chromatography/mass spectrometry (GC/MS) is the only authorized confirmation method for cocaine, marijuana, opiates, amphetamines, and phencyclidine (PCP).

10. <u>Covered employee</u> — any person who performs work on Eastern Elevator Service and Sales Co. property. Such person may be employed directly by Eastern Elevator Service and Sales Co., or by a contractor engaged by Eastern Elevator Service and Sales Co. As applied in the regulations, "employee" and "applicant for employment" have the same meaning for the purpose of these requirements.

11. <u>Covered Function (safety-sensitive function)</u> — an operation. maintenance, or emergency-response function that is performed during Eastern Elevator Service and Sales Co. business.

12. <u>Drug Testing</u> — the scientific analysis of urine, blood, breath, saliva, hair, tissue and other specimens of the human body for the purpose of detecting a drug or alcohol.

13. <u>Illegal Drug</u> — Any drug which is not legally obtainable; any drug which is legally obtainable but has not been legally obtained; any prescribed drug not legally obtained; any prescribed drug not being used for the prescribed purpose; any over-the-counter drug being used at a dosage level other than recommended by the manufacturer or being used for a purpose other than intended by the manufacturer; and any drug being used for a purpose not in accordance with bona fide medical therapy.

14. <u>Legal Drug</u> — Any prescribed drug or over-the –counter drug that has been legally obtained and is being used for the purpose for which prescribed or manufactured.

15. <u>Fail a Drug Test or Test Positive</u> — the confirmation test result shows positive evidence of the presence under DOT procedures of a prohibited drug in the employee's or applicant's system.

16. <u>Initial Test</u> — an immunoassay screen to eliminate "negative" urine specimens from further consideration.

17. <u>Pass a Drug Test or Test Negative</u> — a laboratory conclusion that the presence of an illegal drug or substance was not detected in a specimen above acceptable levels.

18. <u>Prohibited Drug</u> — marijuana, cocaine, opiates. phencyclidine. and amphetamines.

19. <u>Refusal to Submit</u> — refusal by an individual to provide a urine sample after receiving notice of the requirement to be tested in accordance with Eastern Elevator Service and Sales Co.'s anti-drug program.

20. <u>SAMHSA</u> — Substance Abuse and Mental Health Services Administration, formerly National institute on Drug Abuse (NIDA), was established by the Department of Health and Human Services in 1986 to regulate laboratories performing analytical tests (drug tests) on human body fluids for employment purposes in the public sector.

21. <u>Reasonable Belief</u> — a belief based on objective facts sufficient to lead a prudent person to conclude that a particular employee is unable to satisfactorily perform his or her job duties due to drug or alcohol impairment. Such inability to perform may include, but not be limited to, decreases in the quality or quantity of the employee's productivity, judgment, reasoning, concentration and psychomotor control, and marked changes in behavior. Accidents, deviations from safe working practices, and erratic conduct indicative of impairment are examples of "reasonable belief" situations.

22. <u>Under the Influence</u> — a condition in which a person is affected by a drug or by alcohol in any detectable manner. The symptoms of influence are not confined to those consistent with misbehavior, or to obvious impairment of physical or mental ability, such as slurred speech or difficulty in maintaining balance. A determination of being under the influence can be established by a professional opinion, a scientifically valid test, such as urinalysis or blood analysis, and in some cases by the opinion of a layperson.

23. <u>Chain of Custody</u> — a combination of procedures and documentation which provides a faithful and accurate written record of the custody of a biological specimen from time of initial collection to completion of the analysis.

24. <u>Witnessed Collection</u> — The presence during the voiding process of another person whose positioning is discreet but sufficiently present to minimize attempts at substitution or contamination of a specimen.

25. <u>Presumptive and Positive Result</u> — a laboratory conclusion that the specimen was found to contain the presence of a substance based on two or more analytical procedures which did not include enzyme immunoassay (such as EMIT) and/or a radioimmunoassay.

#### E. Eastern Elevator Service and Sales Co. Responsibilities.

1. <u>Drug Program Manager (DPNI)</u>: Appendix A contains the name, address, and phone number of the responsible individual(s). The DPM or other Eastern Elevator Service and Sales Co. designated individual shall be responsible for the preparation of a drug testing drug prevention plan which complies with requirements of the Department of Transportation regulations as set forth in 49 CFR Parts 199 and 40. The DPM shall be responsible for providing oversight and evaluation on the plan; providing guidance and counseling; reviewing of all discipline applied under this plan for consistency and conformance to human resources policies and procedures; scheduling random drug testing and return-to-duty testing; maintaining a locked file system on drug testing results; and overseeing the employee assistance program (EAP) as it is defined in 49 CFR Part 199.19. Eastern Elevator Service and Sales Co. shall ensure that all covered employees are aware of the provisions and coverage of Eastern Elevator Service and Sales Co.'s drug prevention plan.

2. <u>Supervisors and other management personnel:</u> Eastern Elevator Service and Sales Co. individuals responsible for and to be trained in observing the performance and behavior of employees; observation/documentation of events suggestive of reasonable cause and detecting the signs and behavior of employees who may be using drugs or alcohol in violation of this policy; responsible for requests of second supervisor/Safety Director for substantiation and concurrence for reasonable cause testing, if applicable; intervening in situations that may involve violations of this policy; recognizing the above activities as a direct job responsibility.

3. <u>Employees:</u> Each employee has the responsibility to be knowledgeable of the requirements of Eastern Elevator Service and Sales Co.'s drug prevention plan and to be informed of the health and safety dangers associated with drug and alcohol use and to fully comply with and be informed of the provisions of this policy.

#### SECTION II— DRUG TESTING REQUIREMENTS

#### A. Applicability.

1. <u>Individuals Subject to Drug Testing:</u> Any applicant/employee who would performs work and is employed by Eastern Elevator Service and Sales Co. The person may be employed by Eastern Elevator Service and Sales Co. be a contractor engaged by Eastern Elevator Service and Sales Co., or be employed by such a contractor. Refer to Appendix B for specific employee titles subject to testing under this program.

2. <u>Procedure for Notifying Employees:</u> This anti-drug testing plan shall be included in the appropriate Eastern Elevator Service and Sales Co. manual. Upon receipt of Eastern Elevator Service and Sales Co.'s drug prevention plan, each manager shall post the plan in a prominent location that is readily accessible to all covered employees. All covered employees will be provided a complete copy of the drug prevention plan or a condensed/summarized version of the plan. This document must indicate where the entire plan may be obtained for review by an employee.

3. <u>Substances for Which Testing Must Be Conducted:</u> Eastern Elevator Service and Sales Co. shall test each employee who performs a function listed in Appendix B for evidence of the following substances:

#### Marijuana, Cocaine, Opiates, Phencyclidine, and Amphetamines

**NOTE:** Under § 99.7(a) Eastern Elevator Service and Sales Co.'s must provide procedures for notifying employees of the coverage and provisions of the plan. Eastern Elevator Service and Sales Co. may satisfy this requirement by either of the following methods: (1) Provide each employee with a copy of Eastern Elevator Service and Sales Co. drug prevention plan; (2) Provide a summarized version of the drug prevention plan; or, (3) Display the drug prevention plan or summarized version on an employee bulletin board or in an employee break/locker room. If the entire plan is not provided to employees, then the summarized version shall indicate where a complete copy of Eastern Elevator Service and Sales Co.'s drug prevention plan is available for review by the employees.

#### B. Drug Tests Required.

1. <u>Pre-Employment Testing</u>. A pre-employment drug test must be conducted before an individual is hired or contracted and when an individual is transferred/promoted from a non-covered to a covered position. This also applies to employees returning from a leave of absence who have not been participating in the drug prevention plan and subject to the random selection process. A negative test result is required prior to performing covered functions.

- a. All applicants for employment, including applicants for part-time and seasonal positions and applicants who are former employees are subject to drug and alcohol testing.
- b. An applicant that is requested to have a test performed must pass the drug test to be considered for employment.
- c. An applicant will be notified of Eastern Elevator Service and Sales Co.'s drug and alcohol testing policy prior to being tested; will be informed in writing of his or her right to refuse to undergo such testing; and will be informed that the consequence of refusal is termination of the pre-employment process.
- d. An applicant will be provided written notice of this policy, and by signature will be required to acknowledge receipt and understanding of the policy.
- e. If an applicant refuses to take a drug or alcohol test, or if evidence of the use of illegal drugs or alcohol by an applicant is discovered, either through testing or other means, the pre-employment process will be terminated.

#### 2. Drug and Alcohol Testing of Employees.

- a. Eastern Elevator Service and Sales Co. will notify employees of this policy by:
  - Providing to each employee a copy of the policy and obtaining a written acknowledgment from each employee that the policy has been received and read.
  - Announcing the policy in various written communications and making presentations at employee meetings

- b. Eastern Elevator Service and Sales Co. may perform drug or alcohol testing:
  - Of any employee who manifests "reasonable belief" behavior.
  - Of any employee who is involved in an accident that results or could result in the filing of a Workers' Compensation claim.
  - On a random basis of any employee in accordance with NWI BRT Requirements.
  - Of any employee who is subject to drug or alcohol testing pursuant to federal or state rules, regulations or laws.
- c. An employee's consent to submit to drug or alcohol testing is required as a condition of employment and the employee's refusal to consent may result in disciplinary action, including discharge, for a first refusal or any subsequent refusal.
- d. An employee who is tested in a "reasonable belief" situation may be suspended pending receipt of written test results and whatever inquiries may be required.
- e. Refusal to provide a sample or an adulterated or substituted sample will be considered positive. In the event the sample is dilute, or an individual is incapable of providing a sample, a saliva test will be immediately administered.

3. <u>Post-Accident Testing.</u> Work related injuries resulting in medical attention will require a drug and alcohol screening.

4. <u>Reasonable Cause Testing</u>. Reasonable cause testing is designed to provide management with a tool (in conjunction with supervisor training on the signs and symptoms of drug use) to identify drug-affected employees who may pose a danger to themselves and others in their job performance. Employees may be at work in a condition that raises concern regarding their safety or productivity. Supervisors must then make a decision as to whether there is reasonable cause to believe an employee is using or has used a prohibited drug.

a. The decision to test must be based on a reasonable and articulate belief that the employee is using a prohibited drug on the basis of specific, contemporaneous physical, behavioral. or performance indicators of probable drug use. At least two of the employee's supervisors shall substantiate and concur in the decision to test an employee. The concurrence by both supervisors or a supervisor and Safety Director can be accomplished by phone, by discussions a few hours later, or by having another supervisor or Safety Director travel to the job site, if only one supervisor is available at that particular job site.

**<u>NOTE</u>**: For small companies with 50 or fewer employees subject to testing only one supervisor of the employee trained in detecting possible drug use symptoms shall substantiate the decision to test.

- b. In making a determination of reasonable cause, the factors to be considered include, but are not limited to the following:
  - Adequately documented pattern of unsatisfactory work performance, for which no apparent nonimpairment related reason exists, or a change in an employee's prior pattern of work performance, especially where there is some evidence of drug related behavior on or off the work site.
  - Physical signs and symptoms consistent with substance abuse.
  - Evidence of illegal substance use, possession, sale, or delivery while on duty.
  - Occurrence of a serious or potentially serious accident that may have been caused by human error. or flagrant violations of established safety. security, or other operational procedures.

**<u>NOTE</u>**: This information is presented as guidance in determining whether reasonable cause exists to require an employee to submit to a drug test.

- c. The following steps will be used to guide the supervisor to a satisfactory outcome in a reasonable cause situation.
  - i. <u>Verify the reasonable cause decision</u>. Anonymous tips must be taken seriously, but should not be the sole reason to initiate a request for a specimen. Hearsay is not an acceptable basis for reasonable cause referral. If witnesses saw a specific event or behavior, ask them to describe what they saw. How far away were they? How long did they observe the person? What, if anything, caused them to believe it was substance abuse related? On what basis did they reach their conclusion? Before proceeding further, obtain approval from the division manager/department head or designee to proceed with reasonable cause testing.
  - ii. <u>Isolate and inform the employee.</u> Remove the employee from the work location. Explain that there is reasonable cause to believe the employee's performance is being affected by some substance. Ask

the employee to explain the suspected behavior and to describe the events that took place from their perspective. Ask if there is any medication or physical condition that would explain the behavior. A persuasive explanation may or may not deter you from asking for a urine sample. If there is still a reasonable belief that drugs are a factor in the situation/incident, a request for testing should he made; if no reasonable belief is determined then no request for testing should not be made. If the decision to test is made, inform the employee that they are being requested to accompany the appropriate official to the specimen collection site to provide a urine specimen. Inform the employee of the consequences of refusal to submit to testing.

- iii. <u>Review your findings.</u> During the conversation, observe physical and mental symptoms. Be sure to document any characteristics that either support or contradict initial information. In all cases, a reasonable cause decision must be made by two of the employee's supervisors, or one supervisor and Safety Director. This creates greater objectivity, provides additional observation, and generally strengthens the defensibility of the reasonable cause determination.
- iv. <u>Transport the employee.</u> The potentially affected employee should not be allowed to proceed alone to or from the collection site. In addition to the safety concerns for the employee, accompanying the employee also assures that there is no opportunity en route to the collection site for the employee to ingest anything that could affect the test result or to acquire "clean" urine from another person.
- v. <u>Document the events.</u> Record the behavioral signs and symptoms that support the determination to conduct a reasonable cause test. This documentation of the employee's conduct should be prepared and signed by the witnesses within 24 hours of the observed behavior or before the results of the tests are released. whichever is earlier.
- vi. <u>Denial should be an expected reaction.</u> If a person knows they will test positive, they may give many explanations and protestations, wanting to avoid drug testing. If they are not under the influence or affected by a prohibited drug, vehement denial also would be expected. Listen to the employee and carefully evaluate the employee's explanation. Remember, a request to provide a urine specimen is not an accusation: it is merely a request for additional objective data. To the employee it may feel like an accusation: so it is important to stress that this is merely a request for additional data.
- vii. <u>Following collection</u>. After returning from the collection site, the employee shall not perform duties pending the receipt of the drug test results. The employee should make arrangements to be transported home. The employee should be instructed not to drive any motor vehicle due to the reasonable cause belief that they may be under the influence of a drug. If the employee insists on driving, the proper local enforcement authority should be notified that an employee who we believe may be under the influence of a drug is a leaving Eastern Elevator Service and Sales Co. premises driving a motor vehicle.
- 5. <u>Return-to-Duty Testing.</u> This will be at Eastern Elevator Service and Sales Co. discretion.

#### SECTION III— USE OF EMPLOYEE WHO FAILS OR REFUSES A DRUG TEST

A. <u>General.</u> Compliance with this drug-testing plan is a condition of employment. Refusal to take a required drug test or failure of a drug test shall result in removal from performing covered functions. Additional disciplinary action up to and including termination may result.

B. <u>Prohibitions on Use.</u> Eastern Elevator Service and Sales Co. shall not use, in a function covered by Part 199, anyone who:

1. Fails a drug test as verified by the MRO, or

2. Refuses to take a drug test required by this plan.

C. <u>Options for Return-to-Duty</u>. An employee will be given an opportunity to retain his or her employment, provided they first:

- 1. Have been recommended by the MRO for return to duty.
- 2. Pass a DOT drug test. and
- 3. Not failed a drug test required by Part 199 after returning to duty.

4. Enters into an Eastern Elevator Service and Sales Co. approved evaluation/rehabilitation program, at employee's expense and successfully completes the program.

**<u>NOTE</u>**: Rehabilitation is not mandated by DOT regulations and paragraph 4 is based on Eastern Elevator Service and Sales Co. policy and procedures.

#### SECTION IV- SPECIMEN COLLECTION REQUIREMENTS

#### A. Scope.

1. The procedures contained herein and in Appendix C shall be complied with by the designated collection sites and all covered employees who report for drug testing. Eastern Elevator Service and Sales Co. will ensure that collection sites utilized by its employees are aware of their responsibilities with regard to the specimen collection process. The collection site shall post or have readily available instructions, which explain the specimen collection process. If information on collector, donor, and Eastern Elevator Service and Sales Co. representatives' responsibilities are provided under separate cover by Eastern Elevator Service and Sales Co. or the collection site, then the above requirement is not required.

2. The procedures address the requirements contained in § 40.25.

#### B. General.

1. The collection site shall have all necessary personnel, materials. equipment, facilities, and supervision to provide for the collection, security, temporary storage, and shipping or transportation of urine specimens to a certified drug-testing laboratory designated by Eastern Elevator Service and Sales Co. An independent medical facility may also be utilized as a collection site provided the other applicable requirements of Appendix C are met.

2. A designated collection site shall be any suitable location where a specimen can be collected under conditions set forth in Appendix C, including a properly equipped mobile facility. A designated collection site shall have an enclosure within which private urination can occur and a toilet for completion of urination, and a suitable clean surface for writing. The site must also have a source of water for washing hands, which if practicable, should be external to the enclosure where urination occurs

3. Eastern Elevator Service and Sales Co. shall ensure that all collection site personnel have completed training on specimen collection procedures or are qualified as a licensed medical professional. If non-medical collection sites are utilized, then Eastern Elevator Service and Sales Co. shall ensure that appropriate training requirements are documented.

4. The direct supervisor of a covered employee shall not serve as a collector in conducting any required drug test unless it is impracticable.

5. Detailed Specimen Collection Procedures are outlined in Appendix C. These collection procedures are to be provided to the medical collection site personnel.

6. A copy of the standard written instructions setting forth the donor's or employee representative's responsibilities during the specimen collection must be provided prior to the test being conducted.

#### SECTION V— DRUG TESTING LABORATORY

#### A. NIDA Laboratory.

1. Eastern Elevator Service and Sales Co. shall use a drug testing laboratory certified under DHHS Mandatory Guidelines for Federal Workplace Drug Testing Programs: 53 FR 11970, April 11, 1988 and subsequent amendments.

2. The laboratory shall provide services in accordance with Part 40 and Part 199. The name and address of each NIDA laboratory used by Eastern Elevator Service and Sales Co. is contained in Appendix A.

3. The laboratory shall permit inspections by Eastern Elevator Service and Sales Co. the RSPA Administrator, or if Eastern Elevator Service and Sales Co. is subject to the jurisdiction of a state agency, a representative of the state agency.

B. Laboratory Procedures. These procedures are addressed in Appendix D.

Laboratory and Sampling Standards

- 1. The following laboratory standards apply:
  - a. Eastern Elevator Service and Sales Co. will be responsible for assuring that substitute or contaminated samples are not submitted up to extent of witnessed collection of the specimen.
  - b. Eastern Elevator Services and Sales Co. employees must be tested at a SAMSHA certified laboratory.
  - c. Chain of custody protection will be afforded to specimens collected from current and prospective employees.
  - d. Eastern Elevator Services and Sales Co. employees must establish detection/confirmation levels no greater than those specified for urine:

	Screen	GC/MS Confirmation Levels
Amphetamines	1000 ng	500ng/ml (DOT)
Barbiturates	300 ng	200 ng/ml (DOT)
Benzodiazepines	300 ng	300 ng/ml (DOT)
Marijuana	50 ng	15 ng/ml (DOT)
Cocaine	300 ng	150 ng/ml (DOT)
Methadone	300 ng	300 ng/ml (DOT)
Methaqualone	300 ng	200 ng/ml (DOT)
Opiates	300 ng	300 ng ml (DOT)
Phencyclidine	25 ng	25 ng/ml (DOT)
Ethanol <sup>(1)</sup>	.04%	.04% (DOT)

Eastern Elevator Service and Sales Co. employees who take the DOT testing must also abide by DOT requirements.

#### <sup>(1)</sup> Any positive BAT will result in the urine specimen being sent to the laboratory.

- e. All presumptive positives will be further tested using gas chromatography/mass spectrometry (GC/MS). In this testing scheme, a positive finding is called a confirmed positive.
- f. A blood alcohol test is considered positive (for the purpose of the policy) if the alcohol level is confirmed to be at or above .04% by blood volume. This test must be run by a laboratory qualified to perform blood analysis work.

#### SECTION VI — BLIND PERFORMANCE TEST PROCEDURES

A. General.

1. Eastern Elevator Service and Sales Co. shall use blind testing quality control procedures as provided in this section.

2. Eastern Elevator Service and Sales Co. shall submit three blind performance test specimens for each 100 employee specimens it submits, up to a maximum of 100 blind performance test specimens submitted per quarter. RSPA may increase this per quarter maximum number of samples if doing so is necessary to ensure adequate quality control of employees or consortiums with very large numbers of employees.

#### B. Covered Employees.

Companies with fewer than 2,000 covered employees may submit blind performance test specimens as provided in the above paragraph. Such companies may also submit only blank samples or may submit two separately labeled portions of a specimen from the same non-covered employee.

#### C. Investigations and False Positive.

1. RSPA shall investigate, or shall refer to DHHS for investigation, any unsatisfactory performance testing result and, based on this investigation, the laboratory shall take action to correct the cause of the unsatisfactory performance test result. A record shall be made of the investigative findings and the corrective action taken by the laboratory, and that record shall be dated and signed by the individual responsible for the day to day management and operation of the drug testing laboratory. RSPA shall send the document to Eastern Elevator Service and Sales Co. as a report of the unsatisfactory performance testing incident. RSPA shall ensure notification of the finding to DHHS.

2. Should a false positive error occur on a blind performance test specimen and the error is determined to be an administrative error (clerical, sample mix-up, etc.), Eastern Elevator Service and Sales Co. shall promptly notify RSPA. RSPA and Eastern Elevator Service and Sales Co. shall require the laboratory to take corrective action to minimize the occurrence of the particular error in the future, and, if there is reason to believe the error could have been systemic. RSPA may also require review and reanalysis of previously run specimens.

3. Should a false positive error occur on a blind performance test specimen and the error is determined to be a technical or methodological error. Eastern Elevator Service and Sales Co. shall instruct the laboratory to submit all quality control data from the batch of specimens which included the false positive specimen to RSPA. In addition, the laboratory shall retest all specimens analyzed positive for that drug or metabolite from the time of final resolution of the error back to the time of the last satisfactory performance test cycle. This retesting shall be documented by a statement signed by the individual responsible for day-to-day management of the laboratory's urine drug testing. RSPA may require an on-site review of the laboratory. which may be conducted unannounced during any hours of operation of the laboratory. DI-1HS has the option of revoking or suspending the laboratory's certification or recommending that no further action be taken if the case is one of less serious error in which corrective action has already been taken. thus reasonably assuring that the error will not occur again.

#### SECTION VII— REVIEW OF DRUG TESTING RESULTS

#### A. General.

1. Eastern Elevator Service and Sales Co. shall have on staff or contract for the services of an MRO. The MRO shall be a licensed physician with knowledge of drug abuse disorders. The MRO shall review all negative and positive drug test results and interview individuals tested positive to verify the laboratory report before Eastern Elevator Service and Sales Co. is notified. The review of a negative test may be an administrative process to ensure the chain-of-custody procedures were intact. The MRO shall also recommend to Eastern Elevator Service and Sales Co. whether and when an employee who refused to take or did not pass a drug test may return to work and schedule follow-up unannounced drug testing for a period of 60 months.

2. The MRO as contracted with Eastern Elevator Service and Sales Co. to provide the services of MRO for this drug testing policy in accordance with the requirements of §§ 40.33 and 199.15. A listing of Eastern Elevator Service and Sales Co. MRO(s) which includes their name(s) and address(es) is contained in Appendix A.

#### B. Reporting and Review of Results.

1. The MRO shall review confirmed positive results. An essential part of the drug testing program is the final review of confirmed positive results from the laboratory. A positive test result does not automatically identify an employee/applicant as having used drugs in violation of a DOT regulation. An individual with a detailed knowledge of possible alternate medical explanations is essential to the review of results. This review shall be performed by the MRO prior to the transmission of results to Eastern Elevator Service and Sales Co. administrative officials. The MRO review shall include review of the chain-of-custody to ensure that it is complete and sufficient on its face.

2. The duties of the MRO with respect to negative results are purely administrative.

#### C. Qualifications and Responsibilities.

1. The MRO shall be a licensed physician with knowledge of substance abuse disorders and may be an employee of Eastern Elevator Service and Sales Co. or a private physician retained for this purpose. The MRO shall not be an employee of the laboratory conducting the drug test unless the laboratory establishes a clear separation of functions to prevent any appearance of a conflict of interest including assuring that the MRO has no responsibility for, and is not supervised by or the supervisor of, any persons who have responsibility for the drug testing or quality control operations of the laboratory.

2. The role of the MRO is to review and interpret confirmed positive test results obtained through Eastern Elevator Service and Sales Co. testing program. In carrying out this responsibility, the MRO shall examine alternate medical explanations for any positive test result. This action could include conducting a medical interview with the individual and review of the individual's medical history, or review of any other relevant biomedical factors. The MRO shall review all medical records made available by the tested individual when a confirmed positive test could have resulted from legally prescribed medication. The MRO shall not, however, consider the results of urine samples that are not obtained or processed in accordance with DOT regulations.

3. The NIRO may require the original specimen be reanalyzed to determine the accuracy of the test result. The MRO may verify that the laboratory report and assessment are correct.

#### D. Positive Test Results.

1. Prior to making a final decision to verify a positive test result, the MRO shall give the individual an opportunity to discuss the test result with him/her.

2. The MRO shall contact the individual directly, on a confidential basis, to determine whether the employee wishes to discuss the test result. A staff person under the MRO's supervision may make the initial contact, and a medically licensed or certified staff person may gather information from the employee. Except as provided in paragraph 5 of this section, the MRO shall talk directly with the employee before verifying a test as positive.

3. If, after making all reasonable efforts and documenting them. the MRO is unable to reach the individual directly, the MRO shall contact a designated management official who shall direct the individual to contact the MRO as soon as possible. If it becomes necessary to reach the individual through the designated management official, such official shall employ procedures that ensure, to the maximum extent practicable, that the requirement of the employee to contact the NIRO is held in confidence.

4. If, after making all reasonable efforts, the designated management official is unable to contact the employee, Eastern Elevator Service and Sales Co. may place the employee on temporary medically unqualified status or medical leave.

5. The MRO may verify a test as positive without having communicated directly with the employee about the test in three circumstances:

- a. The employee expressly declines the opportunity to discuss the test;
- b. The designated Eastern Elevator Service and Sales Co. representative has successfully made and documented a contact with the employee and instructed the employee to contact the MRO (See paragraphs (D)(3) and (4) of this section), and more than five days have passed since the date the employee was successfully contacted by the designated Eastern Elevator Service and Sales Co. representative; or
- c. Other circumstances provided for in RSPA's drug testing regulations.

6. If a test is verified positive under the circumstances specified in paragraph 5 of this section, the employee may present to the MRO information documenting that serious illness, injury, or other circumstances unavoidably prevented the employee from timely contacting the MRO. The MRO, on the basis of such information, may reopen the verification allowing the employee to present information concerning a legitimate explanation for the confirmed positive test. If the MRO concludes that there is a legitimate explanation, the MRO declares the test to be negative.

7. Following verification of a positive test result, the MRO shall, as provided in Eastern Elevator Service and Sales Co.'s policy, refer the case to the DPM (or designee) for action.

#### E. Verification for Opiates; Review for Prescription Medication.

1. Before the NIRO verifies a confirmed positive result for opiates, the NIRO shall determine that there is clinical evidence—in addition to the urine test—of unauthorized use of any opium. opiate. or opium derivative (e.g., morphine/codeine).

2. This requirement does not apply if Eastern Elevator Service and Sales Co.'s GC/MS confirmation testing for opiates confirms the presence of 6-monoacetylmorphine.

#### F. <u>Reconfirmation Analysis Authorization.</u>

1. Should any question arise as to the accuracy or validity of a positive test result. only the MRO is authorized to order a reconfirmation of the original sample and such retests are authorized only at laboratories certified by DHH S.

2. The MRO shall authorize a reconfirmation of the original sample if requested in writing by the employee within 60 days of the employee having received actual notice of the positive test.

3. If the retest is negative, the MRO shall cancel the test.

G. <u>Results Consistent with Legal Drug Use</u>. If the MRO determines there is a legitimate medical explanation for the positive test result, the MRO shall report the test result to Eastern Elevator Service and Sales Co. as negative.

#### H. <u>Results Scientifically Insufficient.</u>

1. The MRO, based on review of inspection reports, quality control data. multiple samples. and other pertinent results, may determine that the result is scientifically insufficient for further action and declare the test specimen negative. In this situation, the MRO may request reanalysis of the original sample before making this decision. The MRO may request that reanalysis be performed by the same laboratory or, as provided in paragraph F above, that an aliquot of the original specimen be sent for reanalysis to an alternate laboratory which is certified in accordance with the DHHS guidelines.

2. The laboratory shall assist in this review process as requested by the MRO by making available the individual responsible for day-to-day management of the urine drug testing laboratory or other employee who is a forensic toxicologist or who has equivalent forensic experience in urine drug testing, to provide specific consultation as required by Eastern Elevator Service and Sales Co. Eastern Elevator Service and Sales Co. shall include in any required annual report to RSPA a summary of any negative findings based on scientific insufficiency but shall not include any personal identifying information in such reports.

I. Disclosure of Information.

1. Except as provided in this paragraph, the MRO shall not disclose to any third party medical information provided by the individual to the MRO as a part of the testing verification process.

2. The MRO may disclose such information to Eastern Elevator Service and Sales Co., DOT or other Federal safety agency, or a physician responsible for determining the medical qualification of the employee under the appropriate DOT regulation. as applicable, only if—

- a. An applicable DOT regulation permits or requires such disclosure;
- In the MRO's reasonable medical judgment. the information could result in the employee being determined to be medically unqualified under an applicable DOT rule; or
   In the MRO's reasonable medical judgment. in a situation in which there is no DOT rule establishing physical qualification standards applicable to the employee, the information indicates that continued performance by the employee of his or her covered function could pose a significant safety risk.

3. Before obtaining medical information from the employee as part of the verification process. the MRO shall inform the employee that information may be disclosed to third parties as provided in this paragraph and the identity of any parties to whom information may be disclosed.

#### SECTION VIII— RETENTION OF SAMPLES

A. <u>General.</u> Samples that yield positive results on confirmation must be retained by the laboratory in properly secured, long-term, frozen storage for at least 365 days.

B. <u>Retention Period.</u>

1. Within this 365-day period, the employee or designated representative, RSPA or other state agencies with jurisdiction, or Eastern Elevator Service and Sales Co. may request in writing that the sample be retained for an additional period.

2. If the laboratory does not receive the request to retain the sample within the 365-day period, the sample may be discarded.

#### SECTION IX— RETESTING OF SAMPLES

A. <u>General</u>. An employee/applicant may request in writing to the MRO a retest of the sample within 60 days of notification of a positive test result from the MRO.

B. <u>Retest Provisions.</u> The employee may specify that the specimen be retested by the original laboratory or sent to another certified laboratory. The employee may be required to pay in advance for the cost of the shipment and reanalysis of the sample. The employee will be reimbursed for the costs incurred in the reanalysis if the retest of the specimen is negative. If the employee requests a retest at a second laboratory, then the original laboratory must follow the approved custody and control procedures in transferring a portion of the specimen.

C. <u>Detection Levels.</u> Because some analyses deteriorate or are lost during freezing and/or storage. quantization for a retest is not subject to a specific cutoff requirement but must provide data sufficient to confirm the presence of the drug or metabolite.

#### SECTION X— RECORDKEEPING PROCEDURES

A. <u>General.</u> The DPM (or designee) shall maintain a locked file system which will contain drug test results. This file shall be maintained as Confidential. Employee tiles shall be handled on strict "need to know" basis.

Drug tests results shall not be included in personnel files. Information regarding an individual's drug testing result or rehabilitation may be released only upon written consent of the individual, except:

1. Such information must be released regardless of consent to RSPA or other government agency as a part of an accident investigation:

2. Such information may be disclosed regardless of consent in a lawsuit, grievance, or other proceeding initiated by or on behalf of the individual and arising from a verified positive drug test.

B. <u>Statistical Data</u>. Statistical data related to drug testing and rehabilitation that is non name-specified and training records may be released to RSPA or other governmental agency upon request.

C. <u>Record Retention</u>. The records that must be maintained are:

1. Records that demonstrate the collection process conforms to § 40.25 shall be retained for a 3-year period.

2. Employee drug test results that show positive and test type (pre-employment test, random test, post-accident test, or post-rehabilitation test), and records that demonstrate rehabilitation (including the MRO's determination). These records shall be retained for a 5-year period and must include the following information:

- a. Job classification and functions of employee.
- b. Prohibited drug(s) used.
- c. Disposition of employee (i.e., rehab, suspension. termination, etc.)
- 3. Employee drug tests that demonstrate negative results shall be retained for a period of 1 year.

4. A record indicating the total number of employees tested and the results of tests separated into categories shall be retained for a 5-year period.

5. Training records confirming that supervisors and employees have been trained as required tinder § 199.19. and copies of training material used shall be retained for a 3-year period.

#### SECTION XI— CONTRACTOR MONITORING

A. <u>General.</u> Eastern Elevator Service and Sales Co. shall include a clause in contracts that drug testing. education and training shall be addressed by the contractor.

B. <u>Records and Access.</u> Contractors shall retain copies of appropriate records required by Part 199 and Part 40. The records and access to the contractor's property shall be readily accessible for inspection by Eastern Elevator Service and Sales Co., RSPA. and representatives of those state agencies under which jurisdiction Eastern Elevator Service and Sales Co. operates.

C. <u>Monitoring Procedures.</u> Confirmation of contractor compliance - see Appendix E for Contractor Monitoring Procedures.

D. <u>Contractor Coverage</u>. Eastern Elevator Service and Sales Co. can, as an alternative to the above guidance, provide coverage for the contractor's employees by including them in Eastern Elevator Service and Sales Co.'s drug testing program and random pool for the duration of the contract.

#### APPEAL OF A DRUG OR ALCOHOL TEST RESULT

A. An applicant or employee whose drug or alcohol test reported positive will be offered the opportunity of a meeting to offer an explanation. The purpose of the meeting will be to determine if there is any reason that a positive finding could have resulted from some cause other than drug or alcohol use. COMPANY, through its health and/or human resource officials, will judge whether an offered explanation merits further inquiry.

B. An employee whose drug or alcohol test is reported positive will be offered the opportunity to:

1. Obtain and independently test, at the employee's expense, the remaining portion of the urine specimen that yielded the positive result.

2. Obtain the written test result and submit it to an independent medical review at the employee's expense.

C. During the period of an appeal and any resulting inquiries, the pre-employment selection process for an applicant will be placed on hold, and the employment status of an employee may be suspended. An employee who is suspended pending appeal will be permitted to use any available annual leave in order to remain in an active pay status. If the employee has no annual leave or chooses not to use it, the suspension will be without pay.

#### **REHABILITATION AND EMPLOYEE ASSISTANCE**

A. Rehabilitation assistance in lieu of discharge may be offered:

1. To any employee who has requested rehabilitation assistance provided that the request is unrelated to an identification of the employee as a violator of this policy.

2. To any employee who has violated this policy provided that the violation does not involve selling or transferring illegal drugs, or serious misconduct.

B. An employee who is in rehabilitation will be suspended, except that when indicated by the circumstances of the case and the written recommendation of a licensed physician or recognized rehabilitation professional--an employee may be permitted to work while undergoing rehabilitation on an outside-of-work basis. The written recommendation must include a statement to the effect that the employee's presence in the workplace will not constitute a safety hazard to the employee, co-workers or others.

C. An employee whose rehabilitative therapy involves drug maintenance, hospitalization or detoxification will not be considered for the exception from suspension.

D. An employee who is in rehabilitation or who has completed rehabilitation will be allowed to return to work upon presentation of a written release signed by a licensed physician or recognized rehabilitation professional. The release must include a statement to the effect that the employee's presence in the workplace will not constitute a safety hazard to the employee, co-worker or others.

#### INSPECTIONS AND SEARCHES

A. Eastern Elevator Service and Sales Co. may conduct unannounced general inspections and searches for drugs or alcohol on COMPANY premises or in COMPANY vehicles or equipment wherever located. Employees are expected to cooperate.

B. Search of an employee and his or her personal property may be made when there is reasonable belief to conclude that the employee is in violation of this policy.

C. An employee's consent to a search is required as a condition of employment, and the employee's refusal to consent may result in disciplinary action, including discharge, even for a first refusal.

D. Illegal drugs, drugs believed to be illegal, and drug paraphernalia found on COMPANY property will be turned over to the appropriate law enforcement agency and the full cooperation given to any subsequent investigation.

Substances that cannot be identified as an illegal drug by a layman's examination will be turned over to a forensic laboratory for scientific analysis.

E. Other forms of contraband, such as firearms, explosives, and lethal weapons, will be subject to seizure during an inspection or search. An employee who is found to possess contraband on COMPANY property or while on COMPANY business will be subject to discipline up to and including discharge.

F. If an employee is the subject of a drug-related investigation by COMPANY or by a law enforcement agency, the employee may be suspended pending completion of the investigation.

#### CONFIDENTIALITY

All information relating to drug or alcohol testing or the identification of persons as users of drugs and alcohol will be protected by COMPANY as confidential unless otherwise required by law, overriding public health and safety concerns, or authorized in writing by the persons in question.

#### APPENDIX A

#### DRUG PERSONNEL AND SERVICES

- 1. DRUG PROGRAM MANAGER (DPM) SAFETY DIRECTOR
- 2. MEDICAL REVIEW OFFICER (MRO) WINDBER MEDICAL CENTER

#### APPENDIX B

#### EMPLOYEE/SUPERVISORY POSITIONS SUBJECT TO DRUG TESTING (JOB CLASSIFICATIONS/TITLES)

All Eastern Elevator Service & Sales Co. employees are subject to drug testing.

#### APPENDIX C

#### SPECIMEN COLLECTION PROCEDURES

#### A. Scope.

1. The drug testing custody and control form is to be used as a permanent record on which identifying data on the employee and on the specimen collection and transfer process are retained. The drug-testing plan requires testing for marijuana, cocaine, opiates. amphetamines, and phencyclidine.

2. Urine specimens collected under this plan may be used only to test for controlled substances designated or approved for testing as described in this appendix and shall not be used to conduct any other analysis or test.

3. This plan does not prohibit procedures reasonably incident to analysis of the specimen for controlled substances (e.g., determination of pH or tests for specific gravity, creatinine concentration, or presence of adulterants).

#### B. Procedures.

1. The collection site person shall utilize the drug testing chain-of-custody (COC) form. This form must address the requirements as contained in § 40.23. The COC form must comply with the provisions as contained in 49 CFR Part 40 with regard to the information that must be contained on the form.

2. The drug testing custody and control form may include such additional information as may be required for billing or other legitimate purposes necessary to the collection, provided that personal identifying information on the donor (other than the social security number or employee identification number) may not be provided to the laboratory. Donor medical information may appear only on the copy provided to the donor.

**NOTE:** The new custody and control form is available and therefore, the specific instructions on how to complete the form have been deleted.

#### C. Security.

1. The purpose of this paragraph is to prevent unauthorized access which could compromise the integrity of the collection process of the specimen.

2. The designated collection site is to be secure. If a collection site facility is dedicated solely to urine collection, it shall be secure at all times. If a facility cannot be dedicated solely to drug testing. the portion of the facility used for testing shall be secure during, drug testing.

3. A facility normally used for other purposes, such as a public rest room or hospital examining room, may be secured by visual inspection to ensure other persons are not present and undetected access (e.g., through a rear door not in the view of the collection site person) is not possible. Security during collection may be maintained by effective restriction of access to collection materials and specimens. In the case of a public rest room, the facility must be posted against access during the entire collection procedure to avoid embarrassment to the employee or distraction of the collection site person.

4. If it is impractical to maintain continuous physical security of a collection site from the time the specimen is presented until the sealed mailer is transferred for shipment, the following minimum procedures shall apply:

- a. The specimen shall remain under the direct control of the collection site person from delivery to its being sealed in the mailer.
- b. The mailer shall be immediately mailed, maintained in secure storage, or remain until mailed under the personal control of the collection site person.

#### D. Chain-of-Custody.

1. The chain-of-custody block of the drug testing custody and control form shall be properly executed by authorized collection site personnel upon receipt of specimens.

2. Handling the transportation of urine specimens from one authorized individual or place to another shall always be accomplished through chain-of-custody procedures. Every effort shall be made to minimize the number of persons handling specimens.

#### E. Access to Authorize Personnel Only.

1. No unauthorized personnel shall be permitted in any part of the designated collection site when urine specimens are collected or stored. Only the collection site person may handle specimens prior to their securement in the mailing container or monitor or observe a specimen collection (under the conditions specified in this section).

2. To promote security of specimens. avoid distraction of the collection site person, and ensure against any confusion in the identification of specimens, the collection site person shall have only one donor under supervision at anytime.

3. For this purpose, a collection procedure is complete when the urine bottle has been sealed and initialed, the drug testing custody and control form has been executed, and the employee has departed the site (or, in the case of an employee who was unable to provide a complete specimen, has entered a waiting area).

#### F. <u>Privacy.</u>

1. Procedures for collecting urine specimens shall allow individual privacy unless there is a reason to believe that a particular individual may alter or substitute the specimen to be provided, as further described in this paragraph.

2. For purposes of this procedure, the following circumstances are the exclusive grounds constituting a reason to believe that the individual may alter or substitute the specimen:

- a. The employee has presented a urine specimen that falls outside the normal temperature range ( $32^\circ 38^\circ C/90^\circ 100^\circ F$ ). and
  - The employee declines to provide a measurement of oral body temperature, as provided in paragraph G.14. of this section: or
  - Oral body temperature varies by more than 1°C/1.8°F from the temperature of the specimen.
- b. The last urine specimen provided by the employee (i.e., on a previous occasion) was determined by the laboratory to have a specific gravity of less than 1.003 and a creatinine concentration below .2g/L.
- c. The collection site person observes conduct clearly and unequivocally indicating an attempt to substitute or adulterate the sample (e.g., substitute urine in plain view. blue dye in specimen presented): or
- d. The employee has previously been determined to have used a controlled substance without medical authorization and the particular test was being conducted under a DOT regulation providing for follow-up testing upon or after return to service.

3. A higher-level supervisor of the collection site person. or a designated employer representative, shall review and concur in advance with any decision by a collection site person to obtain a specimen under the direct observation of a same gender collection site person based upon the circumstances described in paragraph 2 above.

G. <u>Integrity and Identity of Specimen.</u> The collection site person shall take precautions to ensure that a urine specimen is not adulterated or diluted during the collection procedure and that information on the urine bottle and on the urine custody and control form can identify the individual from whom the specimen was collected. The following minimum precautions shall be taken to ensure that unadulterated specimens are obtained and correctly identified:

1. To deter the dilution of specimens at the collection site, toilet bluing agents shall be placed in toilet tanks wherever possible, so that reservoir of water in the toilet bowl always remains blue. Where practicable, there shall be no other source of water (e.g., no shower or sink) in the enclosure where urination occurs. If there is another source of water in the enclosure, it shall be effectively secured or monitored to ensure it is not used as a source for diluting the specimen.

2. When an individual arrives at the collection site, the collection site person shall ensure that the individual is positively identified as the employee selected for testing (e.g., through presentation of photo identification or identification by the employer's representative). If the individual's identity cannot be established, the collection site person shall not proceed with the collection. If the employee requests, the collection site person shall show proper identification to the employee.

3. If the individual fails to arrive at the assigned time, the collection site person shall contact the appropriate authority to obtain guidance on the action to be taken.

4. The collection site person shall ask the individual to remove any unnecessary outer garments such as a coat or jacket that might conceal items or substances that could be used to tamper with or adulterate the individual's urine specimen. The collection site person shall ensure that all personal belongings such as a purse or briefcase remain with the outer garments. The individual may retain his or her wallet. If the employee requests it, the collection site person shall provide the employee a receipt for any personal belongings.

5. The individual shall be instructed to wash and dry his or her hands prior to urination.

6. After washing hands, the individual shall remain in the presence of the collection site person and shall not have access to any water fountain, faucet, soap dispenser. cleaning agent, or any other materials, which could be used to adulterate the specimen.

7. The individual may provide their specimen in the privacy of a stall or otherwise partitioned area that allows for individual privacy. The collection site person shall provide the individual with a clean specimen bottle or collection container, if applicable, that is securely wrapped for this purpose.

8. The collection site person shall note any unusual behavior or appearance on the urine custody and control form.

9. In the exceptional event that an employer-designated collection site is not accessible and there is an immediate requirement for specimen collection (e.g., circumstances require a post-accident test), a public rest room may be used according to the following procedures: A collection site person of the same gender as the individual shall accompany the individual into the public rest room which shall be made secure during the collection procedure. If possible, a toilet-bluing agent shall be placed in the bowl and any accessible toilet tank. The collection site person shall remain in the rest room, but outside the stall, until the specimen is collected. If no bluing agent is available to deter specimen dilution, the collection site person shall instruct the individual not to flush the toilet until the specimen is delivered to the collection site person. After the collection site person has possession of the specimen, the individual will be instructed to flush the toilet and to participate with the collection site person in completing the chain-of-custody procedures.

10. If Eastern Elevator Service and Sales Co. is using the single collection method then the following procedures shall be used:

- a. The collector may choose to direct the employee to urinate either directly into a specimen bottle or into a separate collection container.
- b. If a separate collection container is used, the collection site person shall pour at least 30 ml of the urine from the collection container into the specimen bottle in the presence of the employee.
- 11. Collection Methodology.
  - a. In either collection methodology, upon receiving the specimen from the individual, the collection site person shall determine if it has at least 30 ml of urine for the primary or single specimen bottle and, where the split specimen collection method is used, an additional 15 ml of urine for the split specimen bottle. If the individual is unable to provide such a quantity of urine, the collection site person shall instruct the individual to drink not more than 24 ounces of fluids and, after a period of up to two hours, again attempt to provide a complete sample using a fresh collection container. The original insufficient specimen shall be discarded. If the employee is still unable to provide an adequate specimen, the insufficient specimen shall be discarded, testing discontinued, and the employer is notified. The MRO shall refer the individual for a medical evaluation to develop pertinent information concerning whether the individual's inability to provide a specimen is genuine or constitutes a refusal to test. Upon completion of the examination, the MRO shall report his or her conclusions to the employer in writing.
  - b. In pre-employment testing, if Eastern Elevator Service and Sales Co. does not wish to hire the individual, the MRO is not required to make such a referral. Upon completion of the examination, the MRO shall report his/her conclusion to Eastern Elevator Service and Sales Co. in writing.
- 12. After the specimen has been provided and submitted to the collection site person, the individual shall be allowed to wash his or her hands.

13. Immediately after the specimen is collected, the collection site person shall measure the temperature of the specimen. The temperature-measuring device used must accurately reflect the temperature of the specimen and not contaminate the specimen. The time from urination to temperature measure is critical and in no case shall exceed 4 minutes.

14. A specimen temperature outside the range of  $32^{\circ}$ C —  $38^{\circ}$ C/90°F —  $100^{\circ}$ F, constitutes a reason to believe that the individual has altered or substituted the specimen (See Section F.2.a.). In such cases, the individual supplying the specimen may volunteer to have their temperature taken to provide evidence to counter the reason to believe the individual may have altered or substituted the specimen.

15. Immediately after the specimen is collected, the collection site person shall also inspect the specimen to determine its color and look for any signs of contaminants. Any unusual findings shall be noted on the urine custody and control form.

16. All specimens suspected of being adulterated shall be forwarded to the laboratory for testing.

17. Whenever there is reason to believe that a particular individual has altered or substituted the specimen as described in Section F.2.a. & c., a second specimen shall be obtained as soon as possible under the direct observation of a same gender collection site person.

18. Both the individual being tested and the collection site person shall keep the specimen in view at all times prior to its being sealed and labeled. As provided below, the specimen shall be sealed by placement of a tamper-proof

seal over the bottle cap and down the sides of the bottle and labeled in the presence of the employee. If the specimen is transferred to a second bottle, the collection site person shall request the individual to observe the transfer of the specimen and the placement of the tamper-proof seal over the bottle cap and down the sides of the bottle.

19. The collection site person and the employee shall be present at the same time during procedures outlined in items 21 through 24 of this section.

20. The collection site person shall place securely on the bottle an identification label, which contains the date. the individual's specimen number, and any other identifying information provided or required by the employer. If separate from the label, the tamper-proof seal shall also be applied.

21. The individual shall initial the identification label on the specimen bottle for the purpose of certifying that it is the specimen collection from the donor.

22. The collection site person shall enter on the drug testing custody and control form all information identifying the specimen. The collection site person shall sign the drug testing custody and control form certifying that the collection was accomplished according to the applicable Federal requirements.

23. The individual shall be asked to read and sign a statement on the drug testing custody and control form that the specimen collected from him/her is in fact that specimen he/she provided.

24. The collection site person shall complete the chain-of-custody portion of the drug testing custody and control form to indicate receipt of the specimen from the employee and shall certify proper completion of the collection.

25. The urine specimen and chain-of-custody form are now ready for shipment. If the specimen is not immediately prepared for shipment, the collection site person shall ensure that it is appropriately safeguarded during temporary storage.

26. Control of Specimen

- a. While any part of the above chain-of-custody procedures is being performed, it is essential that the urine specimen and custody documents be under the control of the involved collection site person.
- b. If the involved collection site person leaves the workstation momentarily. the collection site person shall take the specimen and drug testing custody and control form with him/her or shall secure them. After the collection site person returns to the workstation. the custody process will continue. If the collection site person is leaving for an extended period of time, he/she shall package the specimen for mailing before leaving the site.
- c. The collection site person shall not leave the collection site in the interval between presentation of the specimen by the employee and securement of the sample with an identifying label bearing the employee's specimen identification number and seal initialed by the employee. If it becomes necessary for the collection site person to leave the site during this interval, the collection shall be nullified and at the election of Eastern Elevator Service and Sales Co. a new collection may be begun.

H. <u>Collection Control.</u> To the maximum extent possible, collection site personnel shall keep the individual's specimen bottle within sight both before and after the individual has urinated. After the specimen is collected, it shall be properly sealed and labeled.

I. <u>Transportation to Laboratory</u>. Collection site personnel shall arrange to ship the collected specimens to the drugtesting laboratory. The specimens shall be placed in shipping containers designed to minimize the possibility of damage during shipment (e.g., specimen boxes and/or padded mailers); and those containers shall be securely sealed to eliminate the possibility of undetected tampering. On the tape sealing the container, the collection site person shall sign and enter the date specimens were sealed in the containers for shipment. The collection site person shall ensure that the chain-of-custody documentation is attached to each container sealed for shipment to the drug-testing laboratory.

J. <u>Failure to Cooperate.</u> If the employee refuses to cooperate with the collection process, the collection site person shall inform the designated Eastern Elevator Service and Sales Co. representative and shall document the non-cooperation on the drug testing custody and control form.

K. <u>Employee Requiring Medical Attention</u>. If the sample is being collected from an employee in need of medical attention as part of a post-accident test given in an emergency medical facility, necessary medical attention shall not be delayed in order to collect the specimen.

L. <u>Use of Chain-of-Custody Forms.</u> A chain-of-custody form shall be used for maintaining control and accountability of each specimen from the point of collection to final disposition of the specimen. The date and purpose shall be documented on the form each time a specimen is handled or transferred and every individual in the chain shall be identified. Every effort shall be made to minimize the number of persons handling specimens.

#### APPENDIX D

#### LABORATORY PROCEDURES

#### A. Testing.

1. Initial Test - The initial test shall use an immunoassay which meets the requirement of the Food and Drug Administration for commercial distribution.

2. Confirmatory Test - All specimens identified as positive on the initial test shall be confirmed using gas chromatography/mass spectrometry (GC/MS) techniques at the cutoff values listed in this paragraph for each drug. All confirmations shall be by quantitative analysis. Concentrations which exceed the linear region of the standard curve shall be documented in the laboratory record as "greater than highest standard curve value."

#### B. <u>Reporting Results.</u>

1. The laboratory shall report test results to Eastern Elevator Service and Sales Co.'s MRO within an average of 5 working days after receipt of the specimen by the laboratory. Before any test result is reported (the results of initial tests, confirmatory tests. or quality control data), it shall be reviewed and the test certified as an accurate report by the responsible individual. The report shall identify the drugs/metabolites tested for, whether positive or negative, the specimen number assigned by the employer, and the drug testing laboratory specimen.

2. The laboratory shall report as negative all specimens. which arc negative on the initial test or negative on the confirmatory test. Only specimens confirmed positive shall be reported positive for a specific drug.

3. The NIRO may request from the laboratory and the laboratory shall provide quantitation of test results. The MRO shall report whether the test is positive or negative and may report the drug(s) for which there was a positive test, but shall not disclose the quantitation of test results to Eastern Elevator Service and Sales Co. The MRO may reveal the quantitation of a positive test result to Eastern Elevator Service and Sales Co., the employee, or the decision-maker in a lawsuit, grievance, or other proceeding initiated by or on behalf of the employee and arising from a verified positive drug test.

4. The laboratory may transmit results to the MRO by various electronic means (e.g., teleprinter, facsimile, or computer) in a manner designed to ensure confidentiality of the information. Results may not be provided verbally by telephone. The laboratory and employer must ensure the security of the data transmission and limit access to any data transmission, storage. and retrieval system.

5. The laboratory shall send only to the MRO the original or a certified true copy of the drug testing custody and control form (copy 1). which, in the case of a report positive for drug use, shall be signed (after the required certification block) by the individual responsible for day-to-day management of the drug testing laboratory or the individual responsible for attesting to the validity of the test reports, and attached to which shall be a copy of the test report.

6. The laboratory shall provide to Eastern Elevator Service and Sales Co. official responsible for coordination of the drug-testing program a quarterly statistical summary of urinalysis testing of Eastern Elevator Service and Sales Co.'s employees and shall not include in the summary any personal identifying information. Confirmation data shall be included from test results reported within that quarter. Normally this summary shall be forwarded not more than 14 calendar days after the end of the month covered by the summary. The summary shall contain the following information:

a. Number of specimens received for testing:

- b. Number of specimens confirmed positive for:
  - Marijuana metabolite
  - Cocaine metabolite
  - Morphine, codeine
  - Phencyclidine
  - Amphetamine
  - Methamphetamine
- c. Number of specimens for which a test was not performed.

7. Quarterly reports shall not include data from which it is reasonably likely that information about individuals' tests can be readily inferred. If necessary, in order to prevent the disclosure of such data, the laboratory shall not send a report until data are sufficiently aggregated to make such an inference unlikely. In any quarter in which a report is withheld for this reason, the laboratory will so inform the employer in writing.

8. The laboratory shall make available copies of all analytical results for Eastern Elevator Service and Sales Co. drug testing programs when requested by DOT with regulatory authority over Eastern Elevator Service and Sales Co.

9. Unless otherwise instructed by Eastern Elevator Service and Sales Co. in writing, all records pertaining to a given urine specimen shall be retained by the drug testing laboratory for a minimum of 2 years.

C. <u>Long-Term Storage</u>. Long-term frozen storage (-20°C or less) ensures that positive urine specimens will be available for any necessary retest during administrative or disciplinary proceedings. Drug testing laboratories shall retain and place in properly secured long term frozen storage for a minimum of 1 year all specimens confirmed positive, in their original labeled specimen bottles. Within this I-year period, an employer (or other person designated in a DOT agency regulation) may request the laboratory to retain the specimen for an additional period of time. but if no such request is received the laboratory may discard the specimen after the end of I year, except that the laboratory shall be required to maintain any specimens known to be tinder legal challenge for an indefinite period.

D. <u>Retesting Specimens.</u> Because some analytes deteriorate or are lost during freezing and/or storage, quantitation for a retest is not subject to a specific cutoff requirement but must provide data sufficient to confirm the presence of the drug or metabolite.

E. <u>Subcontracting</u>. Drug testing laboratories shall not subcontract and shall perform all work with their own personnel and equipment. The laboratory must be capable of performing forming testing for the five classes of drugs (marijuana, cocaine, opiates, phencyclidine. and amphetamines) using the initial immunoassay and confirmatory GC/MS methods specified in this appendix. This paragraph does not prohibit subcontracting of laboratory analysis if specimens are sent directly from the collection site to the subcontractor. the subcontractor is a laboratory certified by DHHS as required in this appendix, the subcontractor performs all analysis and provides storage required under this appendix, and the subcontractor is responsible to Eastern Elevator Service and Sales Co. for compliance with this appendix and applicable DOT regulations as if it were the prime contractor.

F. <u>Inspections.</u> DOT, any Eastern Elevator Service and Sales Co. utilizing the laboratory, DHHS, or any organization performing laboratory certification on behalf of DHHS reserves the right to inspect the laboratory at any time. Eastern Elevator Service and Sales Co. contracts with laboratories for drug testing, as well as contracts for collection site services, shall permit Eastern Elevator Service and Sales Co. and the DOT of jurisdiction (directly or through an agency) to conduct unannounced inspections.

G. <u>Documentation</u>. The drug testing laboratories shall maintain and make available for at least 2 years' documentation of all aspects of the testing process. This 2-year period may be extended upon written notification by DOT or by any Eastern Elevator Service and Sales Co. for which laboratory services are being provided. The required documentation shall include personnel files on all individuals authorized to have access to specimens; chain-of-custody documents; quality assurance/quality control records; procedure manuals; all test data (including calibration curves and any calculations used in determining test results); reports; records on performance testing; performance on certification inspections; and hard copies of computer generated data. The laboratory shall maintain documents for any specimen known to be under legal challenge for an indefinite period.

#### H. Protection of Employee Records.

1. Employer contracts with laboratories shall require that the laboratory maintain employee test records in confidence, as provided in DOT regulations.

2. The contracts shall provide that the laboratory shall disclose information related to a positive drug test of an individual to the individual, the employer, or the decision-maker in a lawsuit, grievance, or other proceeding initiated by or on behalf of the individual and arising from a certified positive drug test.

#### **APPENDIX E**

#### **CONTRACTOR MONITORING PROCEDURES**

A. Objective.

In order to assure a contractor's compliance with DOT's regulations, the following procedures are to be followed in determining compliance with the drug testing regulations as set forth in 49 CFR Part 199 and Part 40.

#### B. Procedures for Determining Compliance.

1. <u>Qualifying Potential Contractor</u>: Qualifications of the potential contractor as it pertains to drug testing policies/procedures is assured by requesting the potential contractor to submit a copy of its drug prevention plan for review and compliance with RSPA/DOT regulations. After review of the drug prevention plan is completed, written correspondence to the contractor will advise it whether or not the plan is acceptable or in need of further additions, deletions, revisions or clarifying language. The review of the contractor plan shall be completed utilizing the criteria established in the RSPA Headquarters Drug Inspection form and the DOT Part 40 Drug Inspection forms. Addenda made to the contractor's plan shall be attached to the previously submitted plan. Upon approval of the addendums, a letter of acceptance is then sent to the contractor. The contractor is now eligible to bid on Eastern Elevator Service and Sales Co. contract work that would be covered under Part 199 and Part 40.

2. <u>Monitoring Contractor's Compliance:</u> The contractor may be required to provide information on his/her employees who will perform covered functions for Eastern Elevator Service and Sales Co. This information may include the name and job title of the employees who will perform any work or functions covered by Part 199 under that contract. A list of each contractor's covered employees may be distributed to appropriate Eastern Elevator Service and Sales Co. field management.

3. All contractors will be required to submit drug testing statistical information on a periodical basis, which may be based on the duration of the contract. Typically, this requirement will be on a monthly or quarterly basis. Eastern Elevator Service and Sales Co. may require a more frequent schedule for submission of drug testing data should they determine a need for such statistics.

4. Eastern Elevator Service and Sales Co. shall maintain a complete file on each contractor's statistical drug testing reports. Eastern Elevator Service and Sales Co. shall make available these reports when requested by the RSPA Administrator, agency designated representative, or representatives of those state agencies under which jurisdiction Eastern Elevator Service and Sales Co. operates.

#### DRUG AND ALCOHOL POLICY

A. Position of Our Company.

It is our position at Eastern Elevator Service & Sales Co. Inc. to offer assistance to all employees who need and want help with misuse of alcohol or the use of controlled substances. You may wish to seek confidential help before the effects of drugs, alcohol and other problems jeopardize your opportunity for continued employment. A list of qualified drug and or alcohol facilities are listed on the last page. (private and community self-help referral programs)

- B. It Is Our Company's Objective To:
  - 1. Reduce the opportunities for accident injuries to persons and to protect the property of the company. employees, other workers, our customers and the general public.
  - 2. Provide employees with access to confidential counseling and/or rehabilitation programs and to detect illegal and unauthorized substance abuse and contraband in the workplace.
  - 3. Improve productivity, ensure quality workmanship and to minimize employee absenteeism and tardiness.
  - 4. Comply with the contractual obligations of our customers, government contracts or of a particular federal/state agency.
- C. Enforcement of Policy:

This policy will be enforced (but not limited to) at all buildings. land, vehicles, Including Personal Vehicles on Company or Customer/Client Properties) work areas, customer areas and work locations, whether owned, leased or used. We will also enforce this policy to anywhere employees are working in the course and scope of company employment, including while working on the property of another contractor, a customer or a client.

#### D. Policy Application:

This policy applies to all regular, full-time, part-time commissioned, salaried, probationary, casual, contract employees, or applicants as either a condition of employment or continued employment where applicable. We may also elect to extend this policy to other company contractors or sub-contractors as deemed applicable and allowed by law, at any time.

#### E. Policy Statement:

NO EMPLOYEE SEARCH, URINE DRUG TEST. BLOOD TEST OR INSPECTION WILL BE CONDUCTED WITHOUT WRITTEN CONSENT. HOWEVER, ANY COMPANY EMPLOYEE WHO REFUSES TO SUBMIT TO A SEARCH, INSPECTION, URINE DRUG AND OR ALCOHOL TEST, BREATHALIZER TEST OR BLOOD TEST, OR IS FOUND IN POSSESSION, USE OR TRANSPORTATION OF ANY ILLEGAL DRUGS, UNAUTHORIZED DRUGS, ALCOHOLIC BEVERAGES, CONTRABAND, FIREARMS, UNAUTHORIZED USE OF COMPANY, EMPLOYEE OR CUSTOMER/CLIENT PROPERTY OR ANY UNAUTHORIZED ITEMS WILL BE SUBJECT TO DISCIPLINARY ACTION UP TO AND INCLUDING DISCHARGE FROM EMPLOYMENT, EVEN FOR A FIRST OFFENSE VIOLATION. THIS POLICY IS NOT INTENDED IN ANY WAY TO ADD OR TAKE AWAY FROM ANY LAWS OR REGULATIONS, SET FORTH BY THE DEPARTMENT OF TRANSPORTATION, OUR COMPANY POLICY ON ALCOHOL MISUSE OR THE USE OF CONTROLLED SUBSTANCES, WHICH SHOULD IN CONJUNCTION WITH THIS POLICY BE USED BY DRIVERS OF COMMERCIAL VEHICLES. (CDL DRIVERS)

1. Illegal and unauthorized drugs, (including confirmed detectable amounts in the urine and/or blood while working or possessed at the workplace) including. but not limited to; marijuana, cocaine, opiates, amphetamines and phencyclidine is prohibited and will not be tolerated at any time by our company. Any employee that has tested positive for illegal or unauthorized drugs, may be terminated for even the first offense, or may be offered a onetime chance (first offense only. does not apply to possession violations) to seek professional help, following guidelines, payments or co-payments according to our company's medical benefits, or if not participating in our plan, your own personal benefit plan" coverage. If terminated from employment, you will be responsible for all costs related to your rehabilitation when your company" health care expires, or you may elect at your option to continue your current company health care premiums (if enrolled. per COBRA guidelines) at your own expense. If given the opportunity to seek professional help you will be suspended for a minimum of seven (7) days or until the completion of a reasonable drug treatment or counseling program and required to sign a conditional reemployment agreement that would periodically permit us to test you while you are on substance abuse probation (up to one (1) year). Any future positive test results will be grounds for termination of employment.

2. Alcoholic or intoxicating beverages (any beverage sold and consumed and has an alcohol content in excess of 0.5% by volume) consumed or possessed at the workplace is strictly prohibited and will not be tolerated at any time by our company. Any employee that has tested positive (confirmed amounts at or over 0.05% blood alcohol content BAC) in the urine, breath and/or blood while working, may be terminated for even the first offense, or may be offered a onetime chance (first offense only, does not apply to possession violations) to seek professional help, following guidelines payments or co-payments according to our company's medical benefits, or if not participating in our plan, your own personal benefit plan's coverage. If terminated from employment, you will be responsible for all cost related to your rehabilitation when your company's health care expires, or you may elect at your option to continue your company health care premiums (if enrolled, per COBRA guidelines) at your own expense. If given the opportunity to seek professional help you will be suspended for a minimum of seven (7) days, or until the completion of a reasonable alcohol treatment or counseling program and required to pass a re-entrance alcohol test with a BAC less than 0.05% before being allowed to return to return to regular duty. You will also be required to sign a conditional re-employment agreement that would periodically permit us to test you while you are on alcohol abuse probation (up to one (I) year). Any future tests with a BAC of 0.05% or more, will be grounds for termination. The only time we will test for alcohol is after an accident/incident, pre-employment or where reasonable belief of alcohol use is documented by a supervisor. We may at our option conduct tests at random, routine, periodic or intermittent times.

#### F. Drug-Related Paraphernalia:

Any material or equipment used or designed for use in testing, packaging, storing, injecting, ingesting, inhaling or otherwise introducing into the human body a controlled dangerous substance is strictly prohibited on company property, workplace or in any area this policy is enforced, unless directed by a medical professional. Any possession of drug-related paraphernalia will be grounds for immediate termination of employment.

#### G. Theft/Stolen Property:

The theft, conversion, misappropriation, unauthorized removal, possession or use of company property, including, but not limited to, materials, facilities, tools, equipment, vehicles, documents and proprietary information or any items of property of other employees, clients or customers, will not be tolerated and any infraction of this policy section will be grounds for immediate termination.

#### H. Legally Controlled Substances, Prescribed Drugs:

1. The undisclosed use of any legal drug by any employee while working for Eastern Elevator Service & Sales Co. or while on the premises of Eastern Elevator Service & Sales Co. or on the premises of the clients of Eastern Elevator Service & Sales Co. is prohibited. However, an employee may continue to work even though using a legal drug if Eastern Elevator Service & Sales Co. management has determined, after consulting with Eastern Elevator Service & Sales Co.'s health and/or human resources officials, that such use does not pose a threat to safety and that the using employee's job performance is not significantly affected. Otherwise, the employee may be required to take leave of absence or comply with other appropriate action as determined by Eastern Elevator Service & Sales Co. management.

2. An employee whose medical therapy requires the use of a legal drug must report such use to his or her supervisor prior to the performance of Eastern Elevator Service & Sales Co. business. The supervisor who is so informed will contact Eastern Elevator Service & Sales Co.'s designated human resources officials for guidance.

3. Eastern Elevator Service & Sales Co. at all times reserves the right to judge the effect that a legal drug may have on job performance and to restrict the using employee's work activity or presence at the workplace accordingly.

#### I. Illegal Drugs:

The use, sale, purchase, transfer or possession of an illegal drug or alcohol by any employee while on the premises of Eastern Elevator Service & Sales Co. or while on Eastern Elevator Service & Sales Co. business will be discharged.

#### J. Substance Abuse Policy Enforcement:

1. Searches: Each employee, contractor, vendor or invitee (visitor) may be asked to submit to a search of his/her personal effects including, but not limited to lockers, baggage, briefcases, boxes, bags. parcels, lunch boxes, food/beverage containers, desks, tool boxes, clothing and vehicles, by a supervisor of Eastern Elevator. We also reserve the right to use outside inspection specialists, which may utilize drug detection dogs. You will be required to read and sign a search consent form before any search commences, as a condition of continued employment. If found to be in violation of this policy you may be subject to disciplinary action up to and including discharge. Any substances found as a result of these searches will be tested for confirmation.

2. Pre-employment testing: All new applicants will be required to submit to and to pass a drug/alcohol screening before being considered for employment with our company.

3. Post-accident/incident testing: Eastern Elevator reserves the right to test for controlled substances and/or alcohol following a serious or potentially serious accident or incident in which safety precautions were violated, unsafe instructions or orders were given, equipment or property was damaged, unusually careless acts were performed, or where the incident was caused by the employee" failure to wear prescribed personal protective equipment. while working on company premises or the property of a customer or client.

4. Reasonable Suspicion (or cause) Testing: Eastern Elevator reserves the right to test for controlled substances and/or alcohol if your supervisor/Safety Director has a reasonable suspicion that you show signs of possible articulable facts that would lead a prudent person to be concerned about the employee's safety and/or the safety of others due to the employee's physical condition while working. Observations which may lead to reasonable suspicion include. but are not limited to: Lack of balance, unsteady or staggered walk or muscle twitching, red, watery or glassy eyes, dilated or constricted pupils, or difficulty in focusing eyes, disorientation, uncoordinated movement of body and hands, face

or cheeks flushed, face sallow, slurred speech, memory loss or drowsiness. Documentation for this type of behavior will be documented by your supervisor.

5. Contractual Obligations Testing: You may be required to be tested for controlled substances as a provision of an owner, contractor or government agency to be eligible to work on their properties.

6. Random, Routine, Periodic or Intermittent Testing: Eastern Elevator reserves the right to test for controlled substances or alcohol on random, routine, periodic or an intermittent basis. The tests listed may be done with or without notice to our employees.

K. Disciplinary Action for Policy Violations:

1. All disciplinary actions are explained above, according to each infraction of company policy. All classes of employees will be treated the same and disciplined on an equitable basis. Please be forewarned that any violation of this policy could result in termination of employment with our firm.

2. Any employee who possesses, distributes, sells, attempts to sell, or transfers illegal drugs on Eastern Elevator Service & Sales Co.'s premises or while on Eastern Elevator Service & Sales Co. business will be discharged.

3. Any employee who is found to be in possession of or under the influence of alcohol in violation of this policy will be subject to discipline up to and including discharge.

4. Any employee who is found to be in possession of contraband in violation of this policy will be subject to discipline up to and including discharge.

5. Any employee who is found through drug or alcohol testing to have in his or her body a detectable amount of an illegal drug or of alcohol will be subject to discipline up to and including discharge except that, depending on the circumstances of the case and the employee involved, the employee may be offered a one-time opportunity to enter and successfully complete a rehabilitation program that has been approved by Eastern Elevator Service & Sales Co. During rehabilitation, the employee will be subject to unannounced drug or alcohol testing. Upon return to work from rehabilitation, the employee will be subject to unannounced drug or alcohol testing for a period of 60 months. Any test that is confirmed as positive during or following rehabilitation will result in discharge.

#### L. Employee Assistance Program:

If you have, or think you may have an alcohol, or controlled substance problem, you may call any of the following for information, or speak to any supervisor/Safety Director at our company. We will hold in strict confidence any problem associated with alcohol or controlled substance abuse.

- 1. Alcoholics Anonymous-814-533-5907
- 2. Cambria Co. Community Action Council-814-536-9031
- 3. New Visions Chemical Dependency-814-533-1627
- 4. Substance Abuse Information Center-800-932-0912
- 5. Twin Lakes Rehabilitation-800-452-02 IS
- 6. Recovery Resources-814-536-1576
- 7. Twin Lakes Center for Drug and Alcohol Rehabilitation-814-269-2105 or 814-443-3639

#### Disclaimer:

This substance abuse prevention policy does not constitute a contractual undertaking by Eastern Elevator and we do not. through this program. assume or offer to assume any obligations beyond that which may he imposed by applicable law.

Eastern Elevator reserves the right to alter, amend, or discontinue any policy or program included in this substance abuse prevention program with or without notice, in its sole discretion. The failure of Eastern Elevator to exercise any function in any particular way shall not be considered a waiver of our right to exercise such function or preclude us from exercising that prerogative for function in some other way.

#### CERTIFICATION/ACKNOWLEDGMENT OF POLICY

As you know, Eastern Elevator has established a Policy regarding the prohibition of illegal drugs, alcohol, contraband, stolen property, firearms, weapons, ammunition, explosives, and any other hazardous substances or articles from any of the company's premises, properties, land, facilities, installations, work locations, work areas, vehicles (whether owned, Leased or Used, As Applicable to The Law) while in the course and scope of company employment, pay status or on company business.

It is understood that our policy (As Permitted by Law) may be implemented by such reasonable means as may from time to time be determined appropriate including searches and inspections of person's personal effects, urine drug or blood-alcohol testing of any person according to the guidelines explained in our Drug and Alcohol Policy.

Employees who either decline to be searched, submit to a urine drug, blood alcohol testing or test positive as outlined and required in our Policy or who otherwise are found in violation of this Policy will be subject disciplinary action up to and including discharge from employment and/or removed from all Company/customer/client properties as necessary.

I have read, understood and received a copy of the requirements of Eastern Elevator's Drug and Alcohol Policy and agree to comply with all of its requirements, including searches, urine drug screening or blood/alcohol testing as necessary. I acknowledge that the use/possession of these drugs. alcohol and other items is in violation of this Policy and that I am subject to the disciplinary action as explained to me if I am in violation. I understand that compliance with the above stated Policy is a condition of my employment or continued employment with the Company and/or to be allowed to remain on Company/customer/client properties as described. (NOTE: A machine copy of this form shall have the same force and effects as the original.)

EMPLOYEE/NON-EMPLOYEE SIGNATURE

DATE

WITNESS SIGNATURE

#### PRE-EMPLOYMENT DRUG SCREENING FORM

One of the requirements for consideration of employment with Eastern Elevator Company is the satisfactory passing of a URINE DRUG SCREEN, ALCOHOL OR BREATHALIZER TEST. Please read and answer the following instructions and information carefully:

NOTICE: EASTERN ELEVATOR HAS A POLICY PROHIBITING THE POSSESSION, DISTRIBUTION, USE, CONSUMPTION OR BEING UNDER THE INFLUENCE OF ALCOHOL OR ILLEGAL AND UNAUTHORIZED DRUGS (SYNTHETICS, DESIGNERS, ETC.) AND OTHER HARMFUL SUBSTANCES, IN ORDER TO PROVIDE A SAFE AND HEALTHFUL ENVIRONMENT FOR OUR EMPLOYEES, VISITORS AND OTHERS. YOU MAY BE DROPPED FROM CONSIDERATION OF EMPLOYMENT IF THE RESULTS OF YOUR SUBSTANCE ABUSE TEST INDICATE THAT YOU ARE APPLYING FOR A JOB WHILE YOU ARE USING ANY OF THE ABOVE-MENTIONED ILLEGAL OR UNAUTHORIZED SUBSTANCES. (You may choose to have a second set of tests performed on the same positive urine sample; however, the second test must be paid by the applicant and requested within twenty-four (24) hours after being disqualified.)

#### APPLICANT:

I have read and understood this phase of Eastern Elevator Company's pre-employment medical requirements as explained to me. I accept the Company's conditions for consideration of employment and consent to the requirements of both the urine drug screen/breathalyzer and any other pre-employment physical examinations that may be required to indicate my ability to perform work safely. I agree in submitting to these tests that the testing and/or collection agencies are authorized by me to provide the results of this test to either the Company or its clients/customers based on contractual obligations. I further agree to hold the Company, its agents, directors, officers and employees harmless from any and all claims, demands, actions and liability in connection with the collection or testing for drug and/or alcohol content and the use of the results as they pertain to my consideration of employment. (NOTE: A machine copy of this form shall have the same force and effect as the original. This authorization is limited to the results of all tests and evaluations to either assist management in making employment decisions or as a condition of being allowed to work on a client's/customer's property.)

APPLICANT SIGNATURE

WITNESS SIGNATURE

#### TESTING CONSENT FORM

As you know, Eastern Elevator has a Policy prohibiting the use of illegal and unauthorized drugs and substances. Furthermore, The Company's Policy states that an employee or other persons may be required to submit to a urine drug screen, breathalyzer and/or blood test as a result of any of the testing situations as outlined in the Company's Drug and Alcohol Policy. This particular test is being administered in compliance with one or more of the following Policy situations.

ACCIDENT (OR INCIDENT) RETURN TO WORK CONTRACTURAL OBLIGATION ROUTINE. PERIODIC OR INTERMITTENT REASONABLE SUSPICION (OR REASONABLE CAUSE) RANDOM

EMPLOYEE:

I have read and understood Eastern Elevator's company Substance Abuse Policy. I acknowledge that the use of illegal drugs, unauthorized alcohol or other prohibited substances is in violation of this Policy. I also understand that I am subject to disciplinary action up to and including discharge if I am found to be in violation of this Policy as a result of this test.

I agree in submitting to these tests that the testing and/or collection agencies are authorized by us to provide the results of these tests to our Company or its Medical Review Officer. I further agree to hold Eastern Elevator, its agents, directors, officers and employees harmless from any and all claims, demands, actions and liability in connection with the collection or testing for drug and/or alcohol content and the use of the results as they pertain to my continued employment. (NOTE: A machine copy of this form shall have the same force and effect as the original. This authorization is limited to the results of all drug and alcohol tests and evaluations performed in connection with such tests as they pertain to either my employment status or business relationship.)

TEST SUBJECT'S NAME (PRINT)

TEST SUBJECT'S SIGNATURE

#### SEARCH CONSENT FORM

It is the policy of Eastern Elevator to absolutely prohibit the use, possession, concealment, transportation or distribution of illegal and unauthorized drugs, lookalikes, alcoholic beverages, weapons, drug paraphernalia and other items while in the course and scope of employment, of while on Company premises/properties as an invitee, supplier, vendor or contractor.

Furthermore, our Policy states that an employee, contractor, vendor or invitee may be asked to submit to a search of his/her personal effects including, but not limited to: lockers, baggage, briefcases, boxes, bags parcels, lunch boxes, food/beverage containers, desks, tool boxes, clothing and vehicles, as allowed and permitted by applicable law.

#### EMPLOYEE:

I have read and understood Eastern Elevator's Substance Abuse Policy. I acknowledge that the use, possession or concealment of illegal drugs, unauthorized alcohol or other prohibited items or substances is in violation of this Policy. I also understand that I may be subject to disciplinary action up to and including discharge if I am found to be in violation of this Policy as a result of this search.

I agree to submit to this search as either a condition of continued employment or to remain on the Company's premises/properties, or to conduct business with the Company as a contractor, vendor or invitee.

I further agree to hold the Company, its agents, directors, officers and employees harmless from any and all claims, demands, actions and liability in connection with this search, including but not limited to the results of this search as they pertain to my continued employment or status as a contractor, vendor or invitee. I agree in submitting to this search that this person(s) conducting this search are authorized by me to turn over any unauthorized items that are found over to the Company for disposition. I consent to the search as stated above. (NOTE: A machine copy of this form shall have the same force and effect as of the original.)

SEARCH SUBJECT'S NAME (PRINT)

SEARCH SUBJECT'S SIGNATURE

WITNESS SIGNATURE

DATE

**National Association of Elevator Contractors** 

# CET<sup>®</sup> EDUCATION Program Guide

Updated 1/4/2022



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# NAEC'S CET<sup>®</sup> EDUCATION PROGRAM

The Certified Elevator Technician (CET<sup>®</sup>) Education Program is sponsored and administered by the National Association of Elevator Contractors (NAEC). The purpose of the CET<sup>®</sup> Education Program is to provide the elevator industry technical, mechanical, construction, and maintenance workforces with a means of obtaining and verifying critical education and training requirements related to compliance with industry codes, elevator and escalator specific technical theory, components, and competencies. It is a program which spans four years and 12 courses of study. The program consists of two levels, the core curriculum (Courses 1-4) and the advanced curriculum (Courses 5-12). In addition to unit exams given during the coursework, an exam will be given at the completion of each level. Each course will include skills verifications related to the coursework. The skills must be completed in the presence of a CET or CET-S before going onto the next course.

The CET<sup>®</sup> Education Program is the nationally recognized training program included in NAEC's National Guidelines for Apprenticeship Standards (C2011-03) approved by the U.S. Department of Labor Office of Apprenticeship.

All CET<sup>®</sup> Education course materials are available from Elevator World, Inc.

To purchase course material, call 251.479.4514 x 19. Purchasers will need to provide their candidate number assigned to each CET<sup>®</sup> candidate.

Program information may be obtained from the NAEC website at www.naec.org, or by calling 800.900.6232 or 770.760.9660.

# **Program Definitions**

- Candidate is a participant/learner in the CET<sup>®</sup> Education Program; an individual who has met all application requirements of the NAEC CET<sup>®</sup> Education Program and has been accepted into the program.
- ➤ AET<sup>™</sup> is an Associate Elevator Technician; an individual who has met all application requirements of the CET<sup>®</sup> Education Program, has successfully completed all course requirements of the program's core curriculum, completed all the related skills verifications, completed the required on-the-job-training (OJT) hours and has passed the required qualifying examination.
- CET<sup>®</sup> is a Certified Elevator Technician who has met all the application requirements of the NAEC CET<sup>®</sup> Certification Program, passed the required certification exam and has maintained their certification by completing all requirements of the annual renewal process. A current CET<sup>®</sup> will hold a CET<sup>®</sup> ID issued by the NAEC Certification Board.
- MC is a Modernization and Construction designation awarded to individuals who have met all of the application requirements of the CET<sup>®</sup> Education Program; has successfully completed all course requirements of the program's core and advanced curriculum including all required exams and has completed the skills verifications for Courses 1, 2, 4, 5, 6, 7, 8, 9.
- MR is a Maintenance and Repair designation awarded to individuals who have met all of the application requirements of the CET<sup>®</sup> Education Program; has successfully completed all course requirements of the program's core and advanced curriculum including all required exams and has completed the skills verifications for Courses 1, 3, 4, 5, 6, 8, 9, 10.
- ➤ E is a Escalator designation awarded to individuals who have met all of the application requirements of the CET<sup>®</sup> Education Program; has successfully completed all course requirements of the program's core and advanced curriculum including all required exams and has completed the skills verifications for Courses 1, 4, 5, 6, 8, 9, 11 and has passed the required qualifying examination.
- CET-S is a CET<sup>®</sup> supervisor/administrator; an individual who is a CET<sup>®</sup> (see definition above) and who has successfully completed the NAEC CET<sup>®</sup> Supervisor Training Course. Each participating candidate must have access to a CET-S.
- Program Administrator is an individual who has met the requirements and may proctor unit exams.

# **Education Program Outline**

# Candidate Application Process

- > CET Candidate Qualifications:
  - Must have a high school diploma, GED or equivalent;
  - Must be at least 18 years of age;
  - Must have access to the supervision of a CET-S;
  - Must pay the application fee and annual candidate administration fee;
  - Must be able to read and write in English;
  - Must be a citizen of the United States or be legally authorized by the United States government to work and participate in a training program. The exception to this requirement is for individuals living outside the United States and not working in the United States.
  - > Youth Apprenticeship/Educational Program Qualifications:
  - Must be enrolled in a high school or vocational school;
  - Must attend an NAEC approved training center, state, or county approved vocational school for the related instruction with supervised job site training by member company;
  - Must be at least 16 years of age;
  - Must have a notarized wavier from a parent or guardian;
  - Must have access to the supervision of a CET-S;
  - Each individual must be approved by NAEC;
  - Candidate ID number issued when approved by NAEC for purchase of course material;
  - > Each individual must purchase their own course material; Course material cannot be shared;
  - Must pay the application fee and annual candidate administration fee;
  - Must be able to read and write in English;
  - Must be a citizen of the United States or be legally authorized by the United States government to work and participate in a training program;
  - > Individuals must adhere to the Youth Apprenticeship guidelines for your state;
  - Individual cannot move forward to advanced curriculum until OJT hours are met.

All must complete the following:

- > Complete and submit online application at www.naec.org.
- > NAEC will return your application for review and signature.
- Return the following documents to NAEC:
  - > Application signed by candidate and authorized representative of employer;
  - Copy of High School Diploma or GED transcript (Not required for Youth Apprentice);
  - Copy of photo ID that includes date of birth;
  - Certification Statement signed by candidate, CET-S and authorized representative of employer;
  - Code of Ethics signed by candidate;
  - > Application fee of \$220 for NAEC members or \$680 for non-members

# Core Curriculum (Courses 1-4)

- Consists of 4 courses:
  - Course 1: Introduction to Elevators consisting of 3 units
  - > Course 2: Basics of Installing Elevator Components consisting of 4 units
  - Course 3: Maintenance Practices and Testing consisting of 4 units
  - > Course 4: Electrical Safety and Theory
- Courses must be completed in order;
- > Approximately 2 years to complete; 321 total classroom hours;
- > Course units consist of three basic parts:
  - Text based workbook.
  - > On the job skills verification.
  - > Unit exams (minimum passing score 75%).
- > On the job skills must be completed in the presence of a CET<sup>®</sup> or CET-S.
- > Upon completion of each unit or course an exam will be given. The exam will be
  - > Online.
  - Closed book.
  - Questions chosen from study questions at the end of each unit/course chapter of the core curriculum.
  - Proctored by the candidate's CET-S and carried out in accordance with NAEC testing guidelines.
    - Unit exams may also be proctored by Program Administrator.
- Curriculum can be purchased from approved NAEC vendor, Elevator World, Inc., by calling 251-479-4514 x19 providing the candidate number assigned upon approval of program application.

# AET Designation

An individual will be awarded the Associate Elevator Technician (AET) designation based on the following criteria:

- > Has met all of the application requirements of the NAEC CET Educational Program;
- Has successfully completed all course requirements of CET Educational Program's core curriculum (Course 1-4);
- > Has documented at least 4,000 hours of on-the-job training from hire date to present
- ➢ Has completed the required skills verifications of the core curriculum (Course 1-4); and
- Has passed the Level 1 (AET) exam.

The Level 1 (AET) Exam will be:

- ➢ Online;
- Closed book;
- > Questions randomly chosen from study questions in the core curriculum (Courses 1-4);
- Proctored by the candidate's CET-S and a competent adult who is not the supervisor or related to the candidate in accordance with proctoring guidelines;
- Carried out in accordance with NAEC testing guidelines.

Minimum passing score for Level 1 Exam is 75%. If the applicant fails the Level 1 Exam, the following process will be applicable:

- After the 1<sup>st</sup> Time The candidate may retake the examination (2<sup>nd</sup> attempt) after a 15-day waiting period,
- After Failing the 2<sup>nd</sup> Time The candidate may retake the examination (3<sup>rd</sup> attempt) after a 15-day waiting period and paying a \$100 fee,
- After Failing the 3<sup>rd</sup> Time The candidate may retake the examination (4<sup>th</sup> attempt) after a 60-day waiting period and paying a \$100 fee. Additionally, the candidate's CET-S, and an officer of the candidate's company, must submit a signed and dated statement certifying that the candidate studied the respective curriculum chapter(s) that the candidate failed.
- > After Failing the 4<sup>th</sup> Time The candidate must repeat the entire Core Curriculum.

# Entering the Education Program at the AET Designation

An individual may enter CET<sup>®</sup> Program as an AET and begin studies at the Advanced Curriculum based on the following steps and approval by the NAEC Education Committee:

- 1. Completion of the NAEC CET Education program online application; to include a notarized letter written by applicant stating experience; letter from current employer stating job responsibilities; copies of W2s and pay an additional \$100 to current application fee.
- 2. Completion of:
  - industry related educational training program (NEIEP) modules/courses that are substantially equal to or more comprehensive than the core curriculum of the NAEC CET<sup>®</sup> Educational Program.
  - o or
  - at least 6,000 hours of on-the-job industry training; (copies of 3 years W2s).
  - o or
  - at least 8,000 hours of on-the-job training related to the industry; (copies of 4 years W2s)
- 3. Completion of the OSHA 30 course.
- 4. Completion of the Level 1 (AET) Exam with a minimum score of 75%.
- 5. Verifiable completion of Skills Verifications included in the CET core curriculum (Courses 1-4) to be completed before Level 2 Exam. Courses 1-4 course material must be purchased from Elevator World once individual has been approved by the Education Committee.

This option will not be available to any individual currently enrolled or having ever been enrolled in the CET Program.

# Approved individuals are required to purchase years 1 & 2 of the CET curriculum.

Minimum passing score for Level 1 Exam is 75%. If the applicant fails the Level 1 Exam, the following process will be applicable:

- After the 1<sup>st</sup> Time The candidate may retake the examination (2<sup>nd</sup> attempt) after a 15-day waiting period,
- After Failing the 2<sup>nd</sup> Time The candidate may retake the examination (3<sup>rd</sup> attempt) after a 15-day waiting period and paying a \$100 fee,
- After Failing the 3<sup>rd</sup> Time The candidate may retake the examination (4<sup>th</sup> attempt) after a 60-day waiting period and paying a \$100 fee. Additionally, the candidate's CET-S, and an officer of the candidate's company, must submit a signed and dated statement certifying that the candidate studied the respective curriculum chapter(s) that the candidate failed.
- > After Failing the 4<sup>th</sup> Time The candidate must complete the entire Core Curriculum.

# Advanced Curriculum (Courses 5-12)

- Consists of 8 courses:
  - Course 5: Elevator Doors and Equipment consisting of 1 unit
  - Course 6: Electric Traction Elevators: Traction Theory, Maintenance, Testing & Safety consisting of 3 parts
  - Course 7: Electrical Wiring and Equipment consisting of 1 unit
  - Course 8: Electrical Safety and Theory consisting of 1 unit
  - > Course 9: Hydraulic Theory and Installation consisting of 1 unit
  - > Course 10: Machinery Troubleshooting, Rope Replacement consisting of 2 units
  - > Course 11: Escalators and Moving Walks consisting of 1 unit
  - > Course 12: Accessibility consisting of 1 unit
- Approximately 2 years to complete; 290 total classroom hours;
- > Course units consist of three basic parts:
  - Text based workbook
  - > On the job skills verification
  - > Unit exams (minimum passing score 75%).

- > On the job skills must be completed in the presence of a CET<sup>®</sup> or CET-S.
- > Upon completion of each unit or course an exam will be given. The exam will be
  - ➢ Online;
  - Closed book;
  - Questions chosen from study questions at the end of each unit/course chapter of the advanced curriculum;
  - Proctored by the candidate's CET-S and carried out in accordance with NAEC testing guidelines.
    - Unit exams may also be proctored by Program Administrator
- Curriculum can be purchased from approved NAEC vendor, Elevator World, Inc., by calling 251-479-4514 x 19 using the candidate number assigned upon approval of program application.

# Certificate of Completion

An individual will be awarded a Certificate of Completion for the CET<sup>®</sup> Education Program and can apply for CET<sup>®</sup> Certification based on the following criteria:

- Has met all of the application requirements of the NAEC CET<sup>®</sup> Education Program;
- Has successfully completed all the AET requirements;
- Has successfully completed all course requirements of CET Education Program's advanced curriculum (Course 5-12);
- Has documented at least 8,000 on-the-job training hours from the time of their acceptance in the CET Program;
- Has completed the required skills verifications of the advanced curriculum (Course 5-12); and
- Has passed the Level 2 Exam

The Level 2 Exam will be:

- > Online;
- Closed book;
- Questions randomly chosen from study questions in the advanced curriculum (Courses 5-12);
- Proctored by the candidate's CET-S and a competent adult who is not the supervisor or related to the candidate in accordance with proctoring guidelines;
- Carried out in accordance with NAEC testing guidelines.

Minimum passing score for Level 2 Exam is 75%. If the applicant fails the Level 2 Exam, the following process will be applicable:

- After the 1<sup>st</sup> Time The candidate may retake the examination (2<sup>nd</sup> attempt) after a 15-day waiting period,
- After Failing the 2<sup>nd</sup> Time The candidate may retake the examination (3<sup>rd</sup> attempt) after a 15-day waiting period and paying a \$100 fee,
- After Failing the 3<sup>rd</sup> Time The candidate may retake the examination (4<sup>th</sup> attempt) after a 60-day waiting period and paying a \$100 fee. Additionally, the candidate's CET-S, and an officer of the candidate's company, must submit a signed and dated statement certifying that the candidate studied the respective curriculum chapter(s) that the candidate failed.
- > After Failing the 4<sup>th</sup> Time The candidate must repeat the entire Advanced Curriculum.

# **Curriculum Outline**

# Class hours

# COURSE 1: INTRODUCTION TO ELEVATORS

Course 2 total: Class hours – 90

Unit 1: Elevator History and Basic Safety	35
Unit 2: Basic Print Reading	
Unit 3: Handling Material, Tools, Rigging and Hoisting	20
Course 1 total: Class hours – 79	
Field hours – 1000	

# COURSE 2: BASICS OF INSTALLING ELEVATOR COMPONENTS 25 Unit 4: Pit Equipment 25 Unit 5: Guide Rails 10 Unit 6: Machine Room Equipment 30 Unit 7: Hoistway Equipment 25

# YEAR 1: TOTAL CLASS HOURS = 169 / TOTAL FIELD HOURS = 2,000

# COURSE 3: MAINTENANCE PRACTICES AND TESTING

Field hours – 1000

Unit 8: General Maintenance Practices	22
Unit 9: Maintenance of Traction Elevators	30
Unit 10: Maintenance of Hydraulic Elevators	20
Unit 11: Maintenance of Escalators and Moving Walks	
Course 3 total: Class hours – 87	
Field hours – 1000	

COURSE 4: ELECTRICAL SAFETY AND THEORY	
Course 4: Electrical Safety and Theory	65
Course 4 total: Class hours – 65	
Field hours – 1000	

# YEAR 2: TOTAL CLASS HOURS = 152 / TOTAL FIELD HOURS = 2,000

COURSE 5: ELEVATOR DOORS AND EQUIPMENT	
Unit 12: Elevator Doors and Equipment	
Course 5 total: Class hours - 20	
Field hours – 300	
COURSE 6: ELECTRIC TRACTION ELEVATORS	
Part 1: Electric Principles	
Part 2: Electric Elevator Components	
Part 3: Elevator Troubleshooting	
Course 6 total: Class hours – 105	
Field hours – 1400	

# COURSE 7: ELECTRICAL WIRING AND EQUIPMENT

Unit 13: Construction, Wiring and Equipment	. 20
Course 7 total: Class hours – 20	
Field hours – 300	

# YEAR 3: TOTAL CLASS HOURS = 145 / TOTAL FIELD HOURS = 2,000

<u>COURSE 8: HYDRAULIC THEORY AND INSTALLATION</u> Unit 14: Hydraulics Course 8 total: Class hours – 35 Field hours – 400	35
COURSE 9: BASIC ELECTRONICS AND FUNDAMENTALS Unit 15: Basic Electronics and Solid State Course 9 total: Class hours – 40 Field hours – 600	40
COURSE 10: MACHINERY TROUBLESHOOTING, ROPE REPLACEMENT Unit 16: Elevator Rope Replacement Unit 17: Machinery Troubleshooting/repair (P-8) Course 10 total: Class hours – 30 Field hours – 400	. 6 24
<u>COURSE 11: ESCALATORS AND MOVING WALKS</u> Unit 18: Escalators and moving walks Course 11 total: Class hours – 20 Field hours – 300	20
<u>COURSE 12: ACCESSIBILITY</u> Unit 19: Introduction to the Vertical Transportation Industry (CAT Course 1) <i>Course 12 total: Class hours – 20</i> <i>Field hours – 300</i>	20
YEAR 4: TOTAL CLASS HOURS = 145 / TOTAL FIELD HOURS = 2,000	

Total Class hours	
Total Field hours	

# **ROLE OF THE CET-S**

- > Help the Candidate succeed in completing the CET<sup>®</sup> Education Program
- Ensure that candidates have the required basic skills to complete the program study materials.
- > Assist candidates with their program application.
- > Ensure that candidates have met all their requirements prior to taking each exam.
- > Ensure that the online exams are taken in accordance with NAEC Testing Guidelines.

# CET-S RESPONSIBILITIES TO THE EMPLOYER

Like any industry-based training program, the CET Education program requires coordination between the learner and company operations to help ensure consistency in training, conservation of human and fiscal resources, and assurance that the related activities are conducted within the company policies, procedures, and respective industry safety rules, regulations, and codes. There are several key responsibilities associated with the CET-S and company operations. These responsibilities include the following:

- To help screen and identify new employees who have the potential to successfully complete the training program. Generally, most companies require new employees to go through a probationary period of three to six months. During this period, the employer must determine if the respective employee is trainable for selected technical positions and must ensure that the employee follows company policies and safe practices in the workplace. During this period, attitudes toward safety and learning are observed. Although there is not a yard stick or examination that can measure these qualities, the employer, which includes the company supervisors, knows from experience if a probationary employee has these characteristics. With this in mind, a critical responsibility for the CET-S is to help the employer determine if the respective employee has these characteristics and if having the employee be sponsored by the company for the CET education program is a worthwhile investment.
- To ensure that all of the internal company paperwork for the candidate is properly completed and maintained (e.g., purchase orders and checks if the company is paying for the program, training records, etc.). Although the CET-S would not actually be responsible for completing this paperwork, the CET-S would supervise the completion of such requirements.
- To ensure that the candidate has opportunities to learn and complete the various skills and tasks correlated with the CET<sup>®</sup> Education Program and that appropriate supervisors assist in the skills verification portion of the program.
- To ensure that all program assessments and examinations are in fact taken by each assigned Candidate and that these assessments and examinations were conducted in an environment conducive for such activities as specified by the NAEC Education Program. This responsibility includes ensuring that the assessments and examinations are properly proctored.
- To ensure that company management is kept up-to-date with the progress of each assigned candidate
  - > To serve as a liaison between NAEC and the respective company.
  - To ensure that the CET<sup>®</sup> Education Program within the company is conducted in accordance with program guidelines.
  - To ensure that all company and pertinent industry safety standards, procedures, and codes are followed throughout the candidate training activities.

# **CET-S RESPONSIBILITIES TO THE CANDIDATE**

The role of the CET-S in the education program is a required element to help ensure that the candidate completes the program as designed and in a timely manner. This role should be viewed as more of a mentoring process where the CET-S helps guide the candidate though the many steps of the education program. The specific responsibilities of the CET-S as associated with the Candidate are as follows:

- To ensure that the reading and mathematics assessments are completed by each employee that may potentially participate in the education program and that these assessments are conducted in an environment conducive for such activities as specified in other portions of this publication.
- To assist identified employees with completing the online application for the education program.
- To assist the employee, once he or she officially becomes a candidate, in developing a study schedule and assist the candidate in developing good study habits.
- To assist the employee through the study process by providing a schedule and being available regularly to answer any technical questions the candidate may have.
- > To ensure that all training assessments and examinations are in fact taken by each assigned candidate and that these assessments and examinations are conducted in an environment conducive for such activities as specified by the NAEC Certification Board.
- To ensure that all Candidates have access to company personnel to facilitate the skills verification check-off.
- To review the results of examinations taken by the Candidate and to make arrangements for additional study activities in the event that a candidate has failed an examination.
- To take other reasonable efforts to help the candidate successfully complete the NAEC CET<sup>®</sup> Education Program.

# **CET-S TRAINING KIT**

CET-S applicants can purchase the CET-S kit from Elevator World at www.elevatorbooks.com. The kit contains all of the coursework. However, some reference materials that the Candidate receives are not in the CET-S kit. Attached is a book list broken down by year. A CET-S may order these books separately as needed or as a supplemental library for the company. The supplemental books for the CET-S are available at Elevator World.

SUPPLEMENTAL BOOKS FOR CET-S

- Core Curriculum Year 1-2
  - > USB "Safety While Servicing and Installing Elevators"
  - Field Maintenance Guide (by McCain)
  - > Elevator Industry Field Employees Safety Handbook
  - > The Installation Manual
  - Electric Elevators by Hymens
  - The Maintenance Manual (McCain)
  - > The Field Inspection Handbook
  - Elevator Industry Testing Guide

- Sam and Samantha The Maintainers
- Standard Textbook of Electricity by Hermann
- National Electrical Code (NEC)
- Identification, Installation, Lubrication and Maintenance of Power Transmission Roller Chains in ANSI B29 & B29.3
- Advanced Curriculum Year 3
  - Education Focus Compilation
  - > Electrical Engineering Pocket Handbook
- Advanced Curriculum Year 4
  - Elevators by Jallings
  - ADA and Building Transportation
  - Basic Electronics Vols 1 & 2

# NAEC CET Education Program Fees

# First Year Candidate Fees

		NAEC Member	Non-Member
Candidate Fee includes:		\$ 220.00	\$ 680.00
<ul> <li>Application, Administration Fee &amp; 1</li> </ul>	「esting		
Course I – Introduction to Elevators		\$ 750.00	\$ 900.00
<ul> <li>Unit 1 – Elevator History &amp; Basic Safety</li> <li>Unit 2 – Basic Print Reading</li> <li>Unit 3 – Handling Materials &amp; Tools / Rigging &amp; Hoisting</li> </ul>	<ul> <li>Skills Verification Portfolio</li> <li>Video: Safety While Servicing Elevators</li> <li>Video: Safety While Installing Elevators</li> </ul>	<ul> <li>Elevator Industry Field Employees' Safety Handbook</li> <li>Poster of Elevator Systems</li> </ul>	
Course II – Basics of Installing Elev	ator Components	\$ 750.00	\$ 900.00
<ul> <li>Unit 4 – Pit Equipment</li> <li>Unit 5 – Guide Rails</li> <li>Unit 6 – Machine Room Equipment</li> </ul>	<ul> <li>Unit 7 – Hoistway Equipment</li> <li>Skills Verification Portfolio</li> </ul>	<ul> <li>The Installation Manual</li> <li>Electric Elevators</li> </ul>	
Cost for Firs	st Year of Program per Candidate	\$ 1,720.00	\$ 2,480.00

# Second Year Candidate Fees

		NAEC Member	Non-Member
Candidate Fee includes:		\$ 190.00	\$ 680.00
<ul> <li>Administration Fee &amp; Testing</li> </ul>			
Course III – Maintenance Practices	and Testing	\$ 750.00	\$ 900.00
<ul> <li>Unit 8 – General Maintenance Practices</li> <li>Unit 9 – Maintenance of Traction Elevators</li> <li>Unit 10 – Maintenance of Hydraulic Elevators</li> <li>Unit 11 - Maintenance of Escalators and Moving Walks</li> </ul>	<ul> <li>Skills Verification Portfolio</li> <li>Poster of Elevator Systems</li> <li>The Maintenance Manual</li> <li>The Maintenance Field Guide</li> <li>The Inspection Handbook</li> </ul>	<ul> <li>Identification, Installation, Lubrication &amp; Maintenance of Power Transmission Roller Chains in ANSI B29.1 &amp; B29.3</li> <li>The Field-Testing Handbook</li> <li>Sam and Samantha</li> </ul>	
Course IV – Electrical Safety & The	ory	\$ 750.00	\$ 900.00
<ul> <li>Primer - Instructions on how to use textbook and industry-specific questions and answers</li> </ul>	<ul> <li>Standard Textbook of Electricity by Herman</li> <li>Skills Verification Portfolio</li> </ul>	<ul> <li>National Electrical Code (NEC)</li> </ul>	
Cost for Second Year of Program per Candidate		\$ 1,690.00	\$ 2,480.00

# Third Year Candidate Fees

		NAEC Member	Non-Member
Candidate Fee includes:		\$ 190.00	\$ 680.00
<ul> <li>Administration Fee &amp; Testing</li> </ul>			
Year III Kit		\$ 900.00	\$ 1,050.00
<ul> <li>Course 5 – Doors &amp; Equipment (Unit 12)</li> <li>Course 5 Skills Portfolio</li> <li>Course 6 – Electric Traction Elevators</li> <li>Course 6 Skills Portfolio</li> </ul>	<ul> <li>Course 7 – Electrical Wiring and Equipment (Unit 13)</li> <li>Course 7 Skills Portfolio</li> <li>Education Focus Compilation, Vols. 1 &amp; 2</li> </ul>	<ul> <li>Electrical Engineer Handbook</li> <li>SuperFlex Installat</li> <li>WhisperFlex Instal</li> </ul>	ion Guide
Cost for Third	Year of Program per Candidate	\$ 1,090.00	\$ 1,730.00

# Fourth Year Candidate Fees

		NAEC Member	Non-Member
Candidate Fee includes:		\$ 190.00	\$ 680.00
<ul> <li>Administration Fee &amp; Testing</li> </ul>			
Year IV Kit		\$ 1,000.00	\$ 1,150.00
<ul> <li>Course 8 – Hydraulic Theory and Installation (Unit 14)</li> <li>Course 8 Skills Portfolio</li> <li>Course 9 – Basic Electronic and Fundamentals (Unit 15)</li> <li>Education Focus Compilation, Vol. 3</li> </ul>	<ul> <li>Course 10 – Machinery Troubleshooting and Rope Replacement (Unit 16 &amp; 17)</li> <li>Course 10 Skills Portfolio</li> <li>Course 11 – Escalators and Moving Walks (Unit 18)</li> </ul>	<ul> <li>Course 11 Skills Portfolio</li> <li>Course 12 – Accessibility Course 12 Skills Portfolio</li> <li>Library of Basic Electronics</li> <li>Elevators</li> <li>ADA &amp; Building Transportation</li> </ul>	
Cost of Fourth Year of Program per Candidate		\$ 1,190.00	\$ 1,830.00

Please note that the above fees are subject to change without notice.

# CET-S Kit Fees

CET-S Core Curriculum Kit\$ 1,100.00\$ 1,250.00• CET-S Training Manual • CET-S Log Book• Unit 5 – Guide Rails • Unit 6 – Machine Room Equipment• Unit 10 – Maintenance of Hydraulic Elevators• Unit 2 – Basic Safety • Unit 3 – Handling Materials & Tools / Rigging & Hoisting • Unit 4 – Pit Equipment• Unit 7 – Hoistway Equipment MaintenancePractices • Unit 9 – Maintenance of TractionElevators• Unit 10 – Maintenance of Hydraulic Elevators • Unit 11 – Maintenance of Escalators & Moving Walks • Poster of Elevator Systems • Anatomy of ElevatorsCET-S Advanced Curriculum Kit• Unit 14 - Hydraulic Theory &Installation\$ 1,100.00\$ 1,250.00• CET-S Log Book• Unit 14 - Hydraulic Theory &Installation• Unit 18 - Escalators andMovin Walks	0
<ul> <li>CET-S Log Book</li> <li>Unit 1 – Elevator History and Basic Safety</li> <li>Unit 2 – Basic Print Reading</li> <li>Unit 3 – Handling Materials &amp; Tools / Rigging &amp; Hoisting</li> <li>Unit 4 – Pit Equipment</li> <li>CET-S Advanced Curriculum Kit</li> <li>CET-S Training Manual</li> <li>CET-S Log Book</li> <li>Unit 14 – Hydraulic Theory &amp;Installation</li> <li>Unit 14 – Pit 10 – Maintenance of Hydraulic Elevators</li> <li>Unit 10 – Maintenance of Hydraulic Elevators</li> <li>Unit 11 – Maintenance of Escalators &amp; Moving Walks</li> <li>Poster of Elevator Systems</li> <li>Anatomy of Elevators</li> <li>1,100.00 \$ 1,250.0</li> </ul>	
CET-S Training Manual     CET-S Log Book     Unit 14 - Hydraulic     Theory &Installation     Walks	
CET-S Log Book Theory &Installation Walks	וg
<ul> <li>Unit 12 - Elevator Doors &amp; Equip</li> <li>Course 6 - Electric Traction Elevators</li> <li>Unit 13 - Construction Wiring &amp; Equipment</li> <li>Unit 13 - Construction Wiring &amp; Unit 13 - Construction Wiring &amp; Troubleshooting and Repair</li> <li>Unit 15 - Teachers Guide to Questions &amp; Exercises for BasicElectronics and Fundamentals</li> <li>Unit 16 - Elevator RopeReplacement</li> <li>Unit 17 - Machine Troubleshooting and Repair</li> <li>Unit 19 - Accessibility Equipment, Safety, and Installation</li> </ul>	
CET-S Complete Curriculum Kit Includes all curriculum textbooks and training aids for the entire program. \$2,000.00 \$2,150.0	00
(Please note each CET-S Kit (Core & Advanced) can be one-time purchases – the kits can be maintained in-hou used by more than one CET-S. The CET-S Training Manual and CET-S Log Books are elements of the kit that o be shared. They can be purchased separately after the purchase of the initial Kit if you have multiple CET-S' in y company)	cannot /our
Additional CET-S Training Manuals \$55.00 EACH \$70.00 E/	
Additional/replacement CET-S Log Books \$30.00 EACH \$35.00 E/	
Replacement Units 1-18         \$ 60.00 EACH         \$ 70.00 E/	ACH

Please note that the above fees are subject to change without notice.

Every program participant is required to sign a document attesting that he or she will follow the NAEC CET<sup>®</sup> Code of Ethics.

# CANDIDATE CODE OF ETHICS

In studying to become a CET<sup>®</sup>, studying to renew a CET<sup>®</sup> certification, and working as a CET<sup>®</sup>, I understand and agree to follow all elements of the NAEC CET<sup>®</sup> Code of Ethics as specified in the following:

- Providing falsified or misleading information related to my CET<sup>®</sup> renewal constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> Certification.
- Providing falsified or misleading information related to my CET<sup>®</sup> Candidate Skills Verification constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> Candidate status. Providing falsified or misleading information related to a CET<sup>®</sup> Candidate Skills Verification constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> status.
- Cheating or receiving help of any type not authorized by the NAEC on any education program examination or test constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> Candidate status.
- Providing falsified or misleading information on work related documents, reports, and logs while working as a CET<sup>®</sup> constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> status.
- Failing to follow related industry codes, standards, local and federal laws related to my workrelated duties, and company work rules constitutes good and sufficient grounds for the immediate cancellation of my CET<sup>®</sup> status.

# CET-S CODE OF ETHICS

In carrying out the responsibilities of a CET-S, I understand and agree to follow all elements of the NAEC CET-S Code of Ethics as specified in the following:

- Ensure that every candidate under my charge is dealt with in a fair and unbiased manner.
- Ensure that the confidentiality of every CET<sup>®</sup> candidate under my charge is protected and that personal and CET<sup>®</sup> program progress information will only be provided to the management of the sponsoring company and supervisors required to know to properly conduct their jobs.
- Ensure that CET<sup>®</sup> program assessments and examinations of every CET<sup>®</sup> under my charge are properly proctored and that verification by legal identification with pictures is provided to the proctor before the respective CET<sup>®</sup> candidate takes each assessment and examination. In the case of the CET<sup>®</sup> program, proper proctoring means that the CET<sup>®</sup> candidate will not be permitted to use books, notes, or any other information during the examinations and that no one is permitted to help or coach the CET<sup>®</sup> candidate during the examinations. Also, there will be at least one company employee in the same room with the CET<sup>®</sup> candidate during the entire assessment and examination process.
- Ensure that the skills verification for every CET<sup>®</sup> candidate under my charge is signed off only by a qualified CET<sup>®</sup> and that verification by legal picture identification is provided to the CET<sup>®</sup> who will be conducting skills verification for the respective CET<sup>®</sup> candidate.
- Notify my employer and the NAEC in the event that I have witnessed, or have reason to believe, that an individual has obtained CET<sup>®</sup> candidate status, CET<sup>®</sup>, or CET-S certification under false pretenses.
- To act in a professional manner when conducting CET-S responsibilities

# **Education Program Curriculum Details**

# Core Curriculum

The CET Education Core Curriculum covers approximately two years of study and is divided into four courses. All coursework is available in complete kits from Elevator World, Inc. at www.elevator books.com. Kits include required supplemental materials.

# COURSE 1: INTRODUCTION TO ELEVATORS

Class hours: 79 / Field hours: 1,000

# LEARNING OBJECTIVES

Upon completion of Course 1, the candidate should have:

- Gained knowledge of elevator history and equipment.
- Gained knowledge of overall safe methods of operation in the industry.
- > Gained knowledge of the elevator related drawings and terminology used in the industry.
- > Demonstrated the ability to properly handle material and assist in hoisting and rigging.
- Demonstrated the ability to identify, use and care for the tools involved in the industry.
- > Demonstrated the ability to identify, use and care for the personal protective equipment.

# Unit 1: ELEVATOR HISTORY AND BASIC SAFETY

- 1. History of Elevators
- 2. Elevator Industry Organizations
- 3. Anatomy of an Elevator
- 4. Types of Elevators and Driving Machines
- 5. Escalators and Moving Walks
- 6. Applicable Codes and Publications

# **Unit 2: BASIC PRINT READING**

- 1. Print Terminology
- 2. Drawing to Scale
- 3. Introduction to Installation Drawings
- Unit 3: HANDLING MATERIALS; TOOLS; RIGGING AND HOISTING 3. Handling Materials – Storage at the
  - 1. Handling Materials and Tools
  - 2. Rigging and Hoisting
- ADDITIONAL REQUIRED TRAINING
  - Successful completion of an OSHA 10hr or 30hr training course.

# ADDITIONAL REFERENCE MATERIALS

- Elevator Industry Field Employees' Safety Handbook
   Field Maintenance Guide by Zack McCain
- Safety Training for Elevator Service & Construction (Video)
- Poster of Elevator Systems

# COURSE 2: BASICS OF INSTALLING ELEVATOR COMPONENTS

Class hours: 90 / Field hours: 1.000

# LEARNING OBJECTIVES

Upon completion of Course 2, the candidate should have:

- > Gained fundamental knowledge of all components that comprise an elevator installation.
- Gained fundamental knowledge of the method of installing each component.
- > Gained fundamental knowledge of the code related requirements for each component.

# Unit 4: PIT EQUIPMENT

- 1. Introduction and Pit Construction
- 2. Buffers
- 3. Governor Rope Tension Sheaves
- 4. Compensating Equipment

- 5. Tension Sheaves for Selectors and Floor Controllers
- 6. Limit Switches

- 7. Work of the Elevator Professional
- 8. General Safety
- 9. Component Installation Safety Practices
- 10. Service Safety

Jobsite

- 11. Terminology
- 4. Detail Drawing and Layout
- 5. Fits, Tolerances and Fasteners

# Unit 5: GUIDE RAILS

- 1. Guide Rail Construction and Code Requirements
- 2. Plumbing the Hoistway
- 3. Guide Rail Bracket Fastening and Setting

# Unit 6: ELECTRIC TRACTION ELEVATORS

- 1. Machine Installation
- 2. Machine Room Accessories and Installation

#### **Unit 7: HOISTWAY EQUIPMENT**

- 1. Car and Counterweight Assemblies
- 2. Elevator Rope and Roping
- 3. Hydraulic Driving Components

# ADDITIONAL REFERENCE MATERIALS

- > The Installation Manual
- > Electric Elevators by Fred Hymans

# COURSE 3: MAINTENANCE PRACTICES AND TESTING

Class hours: 87 / Field hours: 1,000

#### LEARNING OBJECTIVES

Upon completion of Course 3, the candidate should have gained:

- > Fundamental knowledge of all components that comprise an elevator installation.
- Fundamental knowledge of the method for maintaining, adjusting and performing the replacement of maintenance related components.
- > Fundamental knowledge of code related requirements.
- > Fundamental knowledge of code required system testing.

#### **Unit 8: GENERAL MAINTENANCE PRACTICES**

- 1. Lubrication
- 2. Bolting Practices
- 3. Elevator Ropes
- 4. Wiring Diagrams

# **Unit 9: MAINTENANCE OF TRACTION ELEVATORS**

- 1. Introduction
  - 2. Maintenance inside the Car and outside the Hoistway
- 3. Maintenance in Machine Room
- 4. Top of Car and Hoistway Maintenance

#### **Unit 10: MAINTENANCE OF HYDRAULIC ELEVATORS**

- 1. Introduction
- 2. Maintenance inside the Car and outside the Hoistway
- 3. Maintenance in Machine Room
- 4. Top of Car and Hoistway Maintenance

#### Unit 11: MAINTENANCE OF ESCALATORS AND MOVING WALKS

- 1. Introduction
- 2. Exterior Maintenance

#### ADDITIONAL REFERENCE MATERIALS

- > The Maintenance Manual by Zack McCain
- > The Maintenance Field Guide by Zack McCain
- > The Inspection Handbook by Zack McCain
- Sam and Samantha by Elevator World
- > Field Employees' Elevator Testing Manual by Jim Runyan & Zack McCain
- Identification, Installation, Lubrication and Maintenance of Power Transmission Roller Chains in ANSI B29.1 & B29.3

- 4. Installing the Guide Rails
- 5. Guide Rail Gauging, Aligning and Filing
- 3. Hydraulic Components
- 4. Top of Car Equipment
- 5. Operating Fixtures and ADA

- 5. Belts and Chains
- 6. Code Requirements
- 7. Testing Requirements
- 5. Pit and Bottom of Car Maintenance
- 6. Maintenance Code Requirements
- 7. Tests
- 5. Pit and Bottom of Car Maintenance
- 6. Maintenance Code Requirements
- 7. Tests

- 3. Interior Maintenance
  - 4. Testing

# COURSE 4: ELECTRICAL SAFETY AND THEORY

Class hours: 65 / Field hours: 1,000

# LEARNING OBJECTIVES

Upon completion of Course 4, the candidate should:

- > Have an understanding of the basic aspects of working safely around electrical equipment.
- > Have an understanding of the principles associated with electricity and electrical circuits.
- Be able to explain where electricity comes from; what voltage, current and resistance are and how their values can be calculated for various types of circuits.
- > Be able to explain how electrical circuits are affected by induction, inductance and capacitance.
- > Have an understanding of the basic concepts associated with the operation of AC circuits.
- > Be familiar with the National Electrical Code and its purpose.

#### Course 4: ELECTRICAL SAFETY AND THEORY

- Introduction/Safety
- Atomic Structure
- Electrical Quantities and Ohm's Law
- Static Electricity
- Magnetism
- Resistors
- Series Circuits
- Parallel Circuits
- Combination Circuits
- Measuring Instruments
- Using Wire Tables and Determining

# REQUIRED TEXTBOOK

Standard Textbook of Electricity by Stephen L. Herman

# ADDITIONAL REFERENCE MATERIALS

- > National Electrical Code (NEC)

# Advanced Curriculum

The CET Education Advanced Curriculum covers approximately two years of study and is divided into two segments. Year Three kit contains materials and instructions on Courses 5-7 and Year Four kit contains materials and instructions on Courses 8-12. All coursework is available in complete kits from Elevator World, Inc. at www.elevator books.com. Kits include required supplemental materials.

# COURSE 5 – ELEVATOR DOORS AND EQUIPMENT

Class hours: 20 / Field hours: 300

# LEARNING OBJECTIVES

Upon completion of Course 5, the candidate should:

- Have gained knowledge of the installation of elevator hoistway entrances and doors, including car door and operators
- > Have gained knowledge of installation of car door and operators
- > Have gained knowledge of the principles of operation of various types of door operators

# Unit 12: ELEVATOR DOORS AND EQUIPMENT

- 1. Door Types
- 2. Preparation of Shaft and Clearances
- 3. Installation of Sliding Passenger Elevator Entrances
- 4. Hoistway Equipment
- 5. Car Equipment
- 6. Swing Hoistway Doors
- 7. Types of Freight Doors
- 8. Preparation of Site
- 9. Freight Door Systems
- 10. Car Gate System

- 11. Retiring Cam System
- 12. Controller
- 13. Dumbwaiter Overview
- 14. Final Adjustments and Maintenance
- 15. Preliminary Drawings and Field Conditions
- 16. Anatomy of Dumbwaiter Doors & Install
- 17. Anatomy of Dumbwaiter Gates & Install
- 18. Dumbwaiter Door Interlocks and Cams
- 19. Maintenance, Troubleshooting and Replacement

- Conductor Sizes
- Batteries and Other Sources of Electricity
- Magnetic Induction
- Alternating Current
- Inductance in AC Circuits
- Capacitors
- Capacitance in AC Circuits
- Three Phase Circuits
- Single Phase Transformers
- National Electric Code (NEC)

Class hours: 105 / Field hours: 1,400

#### LEARNING OBJECTIVES

Upon completion of Course 6, the candidate should:

- Have obtained a detailed knowledge of the construction and operation of AC machines used on elevator systems.
- Have obtained a detailed knowledge of the construction and operation of DC machines used on elevator systems.
- Understand the Ward Leonard System of obtaining DC supply and relate the Ward Leonard System to elevator control.
- > Be able to diagnose electrical faults and apply remedial action.
- Be able to sketch mechanical and electrical wiring diagrams.
- Be able to explain with the aid of diagrams, the construction and operation of field regulators.

#### Part 1: AC AND DC MOTORS, GENERATORS AND MOTOR CONTROL

- 1. AC Motors
- 2. DC Motors
- 3. Motor Control
- 4. Regulators

- 5. Gearless Machines
- 6. Braking
- 7. Electrical Fault Finding

# Part 2: ELEVATOR RELATED CIRCUITS AND BASIC CIRCUIT ANALYSIS

1. Elevator Related Circuits 2. Schematic Circuit Diagrams

- 3. Testing Instruments and Procedures
- 4. Sequence of Investigation

# COURSE 7 – ELECTRICAL WIRING AND EQUIPMENT

#### Class hours: 20 / Field hours: 300

# LEARNING OBJECTIVES

Upon completion of Course 7, the candidate should have obtained knowledge on:

- The sequential steps required to properly review plans and blueprints to develop a plan of the  $\geq$ installation of wires and raceways
- $\triangleright$ How to develop a list of materials to order and have delivered to the worksite to properly install wiring and related support elements to elevator components.
- Machine room and hoistway layout
- $\triangleright$ Box termination
- $\triangleright$ Conductor installation in conduit and tips on how to make such installation easier
- $\triangleright$ Traveling cable application and identification and related requirements
- Traveling cable installation ≻
- $\geq$ Piping and wiring of car enclosures
- Hoistway and box clearances
- Initial start up and safety precautions
- Steps to take to ensure protection of components  $\triangleright$
- Initial car running

# Unit 13: CONSTRUCTION, WIRING AND EQUIPMENT

- 1. Planning and Installation
- 2. Raceway and Conductor Installation
- 3. Traveling Cable Installation
- 4. Powering Up the Elevator

# YEAR 3 ADDITIONAL REFERENCE MATERIALS

- > Education Focus Compilation
- > Electrical Engineering Pocket Handbook
- Superflex Installation Guide (Draka)
- Whisperflex Installation Guide (Draka)

# COURSE 8 – HYDRAULIC THEORY AND INSTALLATION

Class hours: 35 / Field hours: 400

# LEARNING OBJECTIVES

Upon completion of Course 8, the candidate should have obtained knowledge on:

- The fundamental hydraulic principles including Pascal's Law and how to use the associated principles to calculate pressure in a hydraulic elevator system
- > Drilling and casing the jack hole required for direct-acting hydraulic elevators
- > The jack and major components and installation
- Installing and piping the hydraulic machine for both machine-room type and machine-room-less types.
- The hydraulic piping and piping methods
- The installation of guide rails and related components including the car sling, entrances and wiring in accordance with the A17.1 Safety Code for Elevators and Escalators
- > The installation of the enclosure, the integral valve operation and the final hoistway adjustments.

#### Unit 14: HYDRAULIC THEORY AND INSTALLATION

- 1. Basic Hydraulic Theory
- 2. Drilling and Casing the Jack Hole
- 3. Installing the Jack and Components
- 4. Installing and Piping the Hydraulic Machines
- 5. Guide Rails, Car Slings, Entrances and Doors, and Wiring
- 6. Car Enclosure and Operation

#### COURSE 9 – BASIC ELECTRONICS AND FUNDAMENTALS

Class hours: 40 / Field hours: 600

#### LEARNING OBJECTIVES

Upon completion of Course 9, the candidate should have obtained knowledge on:

- > Basic electronic concepts including an overview of the history of electronics.
- > Resistors, including fixed resistors, variable resistors and resistors used in various circuits.
- Capacitor types and applications, capacitor physics, resistor-capacitor (RC) networks; capacitor chips and common causes of capacitor failure.
- Switches, keyboards and electromechanical relays.
- Magnetic components including inductors, impedance, transformers and the testing of magnetic components.
- Miscellaneous passive component and technology trends including connectors, indictor lamps and crystals.
- Surface-mounted-device (SMD) technology, component miniaturization and used of alloys to replace gold.
- Discrete semiconductors, including power MOSFETs and insulated gate bipolar transistors (IGBT).
- Diode Manufacture including silicon rod production, wafer production and wafer scribing.
- > Diode characteristics and specifications including Zener diodes and part-number protection.
- Thyristors including thyristor and silicon-controlled rectifiers (SCRs), SCR mechanisms with DC andAC supplies, SCR applications, triode AC switches (TRIACs), diode AC switches (DIACs) and heat transfer considerations.
- Bipolar transistors including transistor mechanisms as linear amplifiers and digital switches and bipolar transistor applications.
- Field-effect transistors (FET) including junction FET construction and mechanism, junction FET operations as amplifiers and digital switches and metal-oxide semiconductor FET (MOSFET).
- Light-emitting diodes (LEDs) including construction, packages, and specifications.
- LED displays including segmented digital displays, dot-matrix digital display and display selection criteria and specifications.
- Other display technologies including gas-discharge displays, vacuum fluorescent displays, cathode ray tubes, indicator-panel displays and liquid-crystal displays (LCDs).
- > Opto-coupler including the spectral response of silicon and slotted opto-coupler applications.
- Solid-state relays (SSRs) and an update on opto-electronic technology.

# Unit 15: STUDY QUESTIONS AND SKILLS FOR ELECTRONICS AND SOLID STATE

- 1. Basic Concepts
- 2. Resistors
- 3. Capacitors
- 4. Switches, Keyboards and Relays
- 5. Magnetic Components
- 6. Miscellaneous Passive Components and Technology Trends
- 7. Discrete Semiconductors, Definitions and General Information
- 8. Diode Manufacture
- 9. Diode Characteristics and Specifications

# Required Textbooks:

Library of Basic Electronics, Books 1 and 2 by Sy Levine

- 10. Diode Applications
- 11. Thyristors (AC Switches)
  - 12. Bipolar Transistors
- 13. Field Effect Transistors (FETs)
- 14. Light Emitting Diodes (LEDs)
- 15. LED Displays
- 16. Other Display Technologies
- 17. Opto Couplers (OptoIsolators)
- 18. Solid State Relays (SSRs) and Optoelectronic Technology Update

# COURSE 10 – MACHINERY TROUBLESHOOTING AND ROPE REPLACEMENT

Class hours: 30 / Field hours: 400

# LEARNING OBJECTIVES

Upon completion of Course 10, the candidate should have obtained knowledge on:

- > The terminology associated with elevator rope replacement
- The correct inspection procedures for various configurations of elevator roping and the code requirements for removal criteria
- > The inspection of sheaves to see if they are in sufficient condition to put on new ropes
- > How to determine the right ropes to order
- > Proper handling of wire rope so that it is not damaged prior to installation
- Procedure to properly hang ropes
- > Maintenance and troubleshooting for common problems associated with wire ropes and sheaves
- The different machinery types commonly found and some older systems no longer installed but still in use in mechanical driving systems
- Troubleshooting methods, the importance of proper diagnosis, and the planning, communication and safety aspects of the repair or replacement of mechanical equipment
- Components found on elevator machinery and some common methods for the proper repair, replacement and adjustment of these components.
- Components commonly found on elevator installations that include governors, tensions and weight frames, car frames and platforms, safeties and release carriers, guide assemblies, buffers and mechanical selector systems
- The proper testing and lubrication of repaired and/or replaced machinery before returning the equipment back to service

# Unit 16: ELEVATOR ROPE REPLACEMENT

- 1. Wire-Rope Terminology
- 2. Procedures for Inspection and Criteria for Rope Removal
- 3. Additional Inspections Prior to Re-Roping
- 4. Re-Roping
- 5. Field Maintenance and Troubleshooting

# Unit 17: MACHINERY TROUBLESHOOTING/REPAIR

- 1. Mechanical Driving Systems
- 2. Troubleshooting, Diagnosis and Planning
- 3. Repair and Replacement of Machinery Components
- 4. Related Mechanical Equipment
- 5. Testing and Lubrication of Equipment

# COURSE 11 – ESCALATORS AND MOVING WALKS

# Class hours: 20 / Field hours: 300

# LEARNING OBJECTIVES

Upon completion of Course 11, the candidate should have obtained knowledge on:

- Safety procedures and requirements associated with the installation, testing, inspection and maintenance of escalators and moving walkways
- ASME A17.1 Safety Code for Elevators and Escalators as it pertains to the installation, testing, inspection and maintenance of escalators and moving walkways
- Specification of generic equipment and tolls required to assist with the installation of escalators and moving walkways
- > Installation of the truss for escalators including leveling, centering, adjusting and anchoring.
- > Installation of the upper and lower carriage
- Installation and powering up of controllers
- Step and handrail installation
- > Final installation, tests and inspections associated with escalators and moving walks
- > Maintenance requirements associated with escalators and moving walks

# Unit 18: ESCALATORS AND MOVING WALKS

- 1. Safety
- 2. Escalator/Moving Walk Familiarization & Safety
- 3. Escalator/Moving Walk Safety Code
- 4. Introduction to Escalator Install Procedure
- 5. Truss Installation
- 6. Truss Adjusting and Anchoring
- COURSE 12 ACCESSIBILITY

# Class hours: 20 / Field hours: 300

Course 12 is also Course 1 of the Certified Accessibility and Private Residential Lift Technician (CAT) Education Program. It is a "bridge unit" which can be counted towards credit in both programs.

# LEARNING OBJECTIVES

Upon completion of Course 12, the candidate should have obtained knowledge on:

- The Accessibility Lift and Private Residence Elevator history, evolution of the national codes and standards and the American with Disabilities Act (ADA) and the impact on the industry
- Associated organizations
- Safety codes, standards and related publications most commonly used.
- Associated terms and definitions
- Types of accessibility lifts and residence elevators in general use with a listing of designed purposes of the various types and their respective uses and limitations, including their drive systems.
- Key safety practices and procedures
- Basics of electrical knowledge including the fundamentals of electricity and the basic structure of matter
- Reading and understanding installation drawings including wiring diagrams, electrical drawing symbols and legends, mechanical drawings, drawing symbols, drawing versions and detail drawings.
- > The installation of accessibility lifts and residence elevators

# Unit 19: INTRODUCTION TO THE VERTICAL TRANSPORTATION INDUSTRY

- 1. Vertical Transportation History
- 2. National Applicable Codes and Regulations
- 3. Accessibility Industry Glossary of Terms
- 4. General Safety

- 5. Types of Accessibility and Residential Equipment
- 6. Introduction to Basic Electricity
- 7. Print Reading
- 8. Installation

# YEAR 4 ADDITIONAL REFERENCE MATERIALS

- > ADA and Building Transportation by Ed Donoghue
- Elevators by John Jallings
- Cylinder Head Packing Booklet (Texacone)

- 7. Installing Center Line on Truss
- 8. Upper and Lower Carriage Installation
- 9. Controller Installation
- 10. Step and Handrail Installation
- 11. Final installations, Tests and Inspections
- 12. Maintenance Requirements