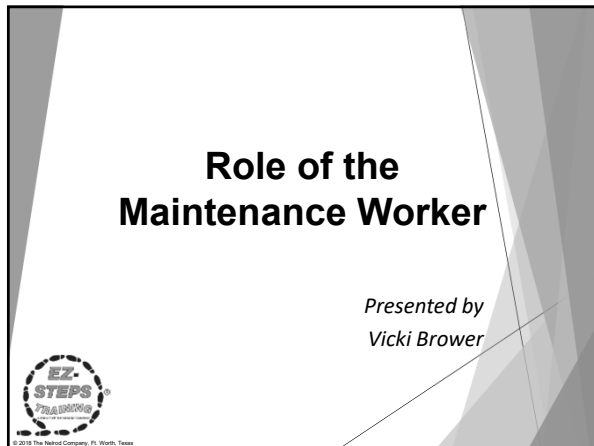
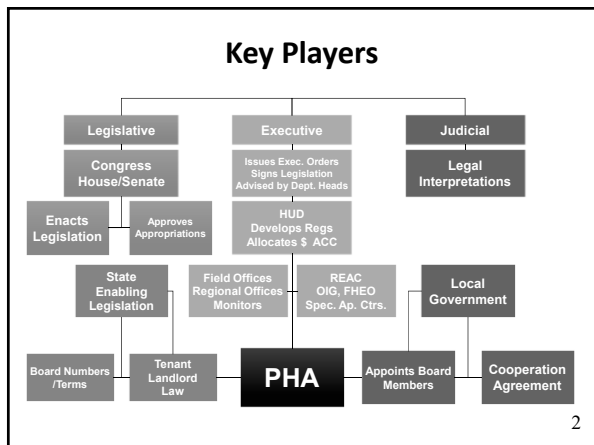
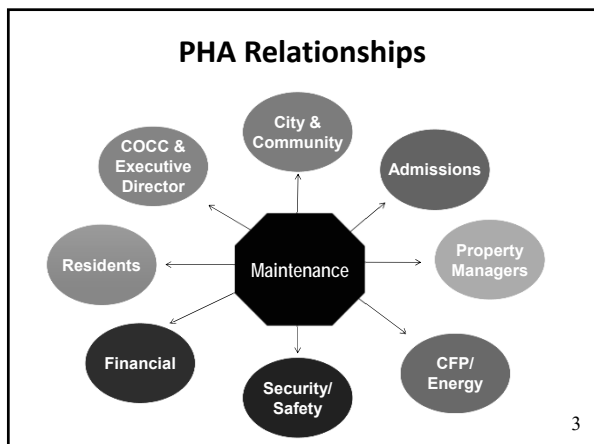


Role of the Maintenance Worker







Role of the Maintenance Worker

Before We Begin – Acronyms

- ▶ ACC
- ▶ ACOP
- ▶ AMP
- ▶ CFP
- ▶ CFR
- ▶ COCC
- ▶ DoL
- ▶ HUD
- ▶ OSHA
- ▶ PHAS
- ▶ PIH
- ▶ PM
- ▶ PUM
- ▶ REAC
- ▶ SDS
- ▶ UPCS

4

The Elements of Maintenance



5

Elements of Maintenance

- ▶ Maintenance Plan
- ▶ Work Order System
- ▶ Routine Maintenance
- ▶ Emergency Maintenance
- ▶ Preventive Maintenance
- ▶ Vacant Unit Turnaround
- ▶ Inspections
- ▶ Crime/Vandalism Control
- ▶ Warehousing and Inventory
- ▶ Maintenance of Tools and Equipment
- ▶ Homebuyer Maintenance

6

Role of the Maintenance Worker

Elements of a Maintenance Plan

- ▶ Annual inspections
- ▶ Building and systems inspections & repair
- ▶ Painting
- ▶ Extraordinary repair/replacement
- ▶ Programmed maintenance
- ▶ Routine and janitorial
- ▶ Modernization
- ▶ Procurement schedule
- ▶ Training
- ▶ Quality control

7

Categories of Maintenance

- ▶ Routine maintenance
- ▶ Emergency maintenance
- ▶ Preventive maintenance
- ▶ Cyclical maintenance

8

Types of Inspections

- ▶ Move-In
- ▶ Annual
- ▶ Unit Turnaround
- ▶ Pre-Move-Out
- ▶ Move-Out
- ▶ Systems
- ▶ Housekeeping
- ▶ Quality Control
- ▶ REAC

9

Role of the Maintenance Worker

Warehousing & Inventory

- ▶ Inventory management
 - Procurement
 - Materials and supplies
 - Distribution of tool, equipment, & bench stock
 - Work order use monitoring
 - Documentation

10

Impact of Vacancies

11

Impact of Vacancies

- ▶ Operating Subsidy
- ▶ Rental Income
- ▶ Public Housing Assessment System
- ▶ Revenues to the COCC
- ▶ Market Appeal
- ▶ Security
- ▶ Vandalism

12

Role of the Maintenance Worker

Impact of Vacancies on Operating Subsidy

- ▶ The PHA does not receive Operating Subsidy for unapproved vacancies exceeding:
 - 3% if PHA has more than 100 units
 - 60 days if PHA has 100 units or less
- ▶ Loss of rental income on vacant units

13

Example of Income Loss

- ▶ Assume 150 units in project:
 - 150 units X 12 months = 1800 unit months
 - 3% vacancy = 54 unit months allowed in formula
 - 1% additional vacancies = 18 unit months
 - PEL = \$300 PUM
 - Income Loss = \$5,400 (\$300 X 18)

14

Impact of Vacancies to COCC

- ▶ COCC operates off of fees collected and other non-HUD revenues
- ▶ COCC loses between \$56 and \$91 in revenue for each vacant unit month
 - \$7.50 per unit per month bookkeeping fee
 - Property management fee (Average \$66 - varies from \$49 - \$84 in 2018 depending on location)

15

Role of the Maintenance Worker

Impact of Vacancies to COCC

- Vacancies may also affect \$10 PUM Asset Management fee
 - Based on units under ACC (not occupied units)
 - Reduced Asset Management fee income increases likelihood of negative cash flow

16

Impact of Vacancies on PHAS

- Reduced points for Occupancy Loss under Management Indicator
 - 98% occupancy = all 16 points
 - <98% but ≥96% = 12 points
 - <96% but ≥94% = 8 points
 - <94% but ≥92% = 4 points
 - <92% but ≥90% = 1 point
 - <90% = 0 points

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Impact of Vacancies on PHAS

- Reduced points for Occupancy Rate under Capital Fund Indicator
 - ≥96% = 5 points
 - ≥93% but <96% = 2 points
 - <93% = 0 points
- Loss of rental income and operating subsidy negatively impact Financial Indicator Scores: MENAR and QR

18

Role of the Maintenance Worker

Impact of Vacancies on Market Appeal

- ▶ Security
- ▶ Vandalism
- ▶ Appearance of vacancies
 - Boarded up units
 - Neglected yards

19

Abandonment Concerns

- ▶ When unit appears abandoned:
 - Notify the manager
 - Determine if unit has electricity/gas
 - Secure the unit
 - If electricity is off, open refrigerator door
 - Provide notice of how to gain entry

20

Abandonment Concerns

- ▶ Must provide to last known address, notice stating:
 - Where the property is
 - Where it can be claimed
 - How long they have to claim it
 - What will happen if not claimed
 - How much it will cost to store it

21

Role of the Maintenance Worker

Abandonment Concerns

- Disposition of property
 - State law provides amount at which property must be publicly sold – generally around \$300
 - Property worth less can be disposed of after required storage time

22

Vacant Unit Turnaround



23

Tracking Vacant Unit Turnaround

- Pre-Move-Out inspection
- Move-Out Date
- Move-Out inspection and calculation of charges to vacating tenant
- Coordination with Management
- Coordination with Contractors

24

Role of the Maintenance Worker

Coordination with Management

- ▶ Considerations:
 - Unit sizes and locations that can be leased quickest
 - Transfers
 - Capital Fund Program
- ▶ Notification of projected completion dates

25

Managing the Turnaround Process

26

Managing the Turnaround Process

- ▶ Lock Changes
- ▶ Storage/Disposal of Unit Contents
- ▶ Initial Cleaning
- ▶ Maintenance and Repairs
- ▶ Final Cleaning
- ▶ Make-Ready Completion Inspection

27

Role of the Maintenance Worker

Acceptance of Unit & Lease-Up

- ▶ Final inspection of turned unit by Management
- ▶ Move-In inspection with new tenant
- ▶ Courtesy Call/Post Move-In Orientation

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Post Move-In Maintenance Orientation

- ▶ 5 – 10 days after tenant has leased
- ▶ Assure tenant this is something you must do – don't make them think you are suggesting they are ignorant
- ▶ Go over each item on checklist and show tenant how to perform each task
- ▶ Obtain tenant signature
- ▶ Leave welcome gift

29

Review Questions



30

Role of the Maintenance Worker

Review Question

The elements of a Maintenance Plan include:

- A. Annual Inspections
- B. Quality Control
- C. Modernization
- D. All the above

31

Review Question

An annual inspection cannot be counted as complete until which of the following happens:

- A. Deficiencies are corrected during the inspection
- B. Work order is issued for correction of deficiencies
- C. Correction of deficiencies is contracted
- D. Correction of deficiencies is deferred to the current Capital Fund program, or to the next year's capital fund program if less than 3 months is remaining in the fiscal year
- E. Any one or more of the above items

32

Review Question

Asset Management does not affect maintenance.

- A. True
- B. False

33

Role of the Maintenance Worker

Review Question

Vacancies do not affect the Operating Subsidy of the PHA.

- A. True
- B. False

34

Review Question

Quality control inspections are used to monitor:

- A. Quality of work completed from routine and emergency work orders
- B. Progress and quality of vacancy preparation work
- C. Accuracy and adequacy of annual inspections
- D. A and C
- E. All the above

35

The Paper Trail

36

Role of the Maintenance Worker

Importance of Record Keeping

► Records

- Provide a means of getting the work done and making sure it is done properly
- Enable you to analyze trends and plan future actions based on history
- Can protect you and the PHA when complaints are lodged or litigation occurs

37

Typical Records

- Staff time sheets
- Inventory
- Procurement records
- Life-cycle histories
- Safety records
- Work orders
- Vehicle Logs
- Inspections

38

Records to Improve Performance

- Tracking staff activities
- Tracking inventory
- Work order management
- Daily work sheets
- Vacancy make-ready records

39

Role of the Maintenance Worker

Typical Forms

- ▶ Work orders
- ▶ Inspections
- ▶ Accident report forms
- ▶ Requisitions

40

Work Orders



41

Work Order System

- ▶ **Most important tool in the maintenance operation**
- ▶ All work should be documented by work order
 - It may be necessary to take care of emergencies or life-threatening situations before generating a work order.

42

Role of the Maintenance Worker

Emergency Work Order

- ▶ A deficiency that poses an immediate threat to life, health and/or safety of a property or resident or that is related to fire safety
- ▶ Emergency Work Order **MUST** be abated within 24 hours

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Non-Emergency Work Order

- ▶ A deficiency that does not pose an immediate threat to life, health and/or safety of a property or resident
- ▶ Does not include:
 - Cyclical tasks
 - Work deferred for capital funding and/or vacant unit preparation

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Purposes of Work Order System

- ▶ Record maintenance work that needs to be completed
- ▶ Track its progress and completion
- ▶ Document materials usage

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Role of the Maintenance Worker

Purposes of Work Order System

- ▶ Provide basis for monitoring effectiveness and productivity of staff
- ▶ Assure that necessary resources are available
- ▶ Provide historical data

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Components of Work Order Systems

- ▶ Work order forms
- ▶ Work order logs
- ▶ Work order assignments
- ▶ Work order tracking
- ▶ Quality control
- ▶ Weekly maintenance summaries
- ▶ Monthly reports

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Work Orders

- ▶ Work Order sources
 - Preventive Maintenance schedule
 - Residents
 - Staff
 - Inspections
 - Community

48

Role of the Maintenance Worker

Work Orders

- ▶ Work Order priorities
 - Emergency
 - Routine
 - Urgent
 - Not urgent
 - Cyclical

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Work Order Forms

- ▶ date the work was requested
- ▶ unit/address where work is needed
- ▶ description of work
- ▶ urgency of request
- ▶ skill level required to complete the work
- ▶ how long it took staff to complete the work
- ▶ whether or not the resident should be charged for the repair
- ▶ "OK to enter" documentation

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Work Order Forms

- ▶ whom the work is assigned to
- ▶ date and time the work was started and completed
- ▶ supplies and parts used to make the repairs and the costs of these items
- ▶ report to management any adverse condition/lease violations that need follow-up
- ▶ signature lines for both the resident and maintenance worker to certify the work was completed
- ▶ date and results of quality inspection of work

51

Role of the Maintenance Worker

Scheduling Work

- ▶ Double-check resource availability
- ▶ Predict how long each maintenance requirement will take
- ▶ Coordinate with other maintenance activities and PHA departments
- ▶ Distribute work load

52

Work Order Management

- ▶ Work orders
 - should be assigned at beginning of each day and turned back in at end of each day, **whether completed or not**
 - Completed Work Orders should be reviewed to verify materials used and completeness
 - Completed Work Orders should be promptly entered into housing software and filed

53



PHA Work Standards

54

Role of the Maintenance Worker

Objectives

- ▶ Given the requirements of PHAS, develop an understanding of how to improve agency performance
- ▶ Given the principles of work standard development, develop a comprehensive list of maintenance work standards for your PHA

55

Authorization to Assess Agencies

- ▶ 42 U.S.C. 1437d(j)(2) defines “troubled public housing agency” and specifies criteria for determination and actions
- ▶ 6(j) of the U.S. Housing Act of 1937 lists 7 required evaluation criteria and allows Secretary to add up to 5 additional criteria

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6(j) Required Assessment Criteria

- ▶ Number and percentage of vacancies, including progress to reduce vacancies
- ▶ Capital fund obligations and expenditures
- ▶ Percentage of rents uncollected
- ▶ Energy consumption
- ▶ Repair and turnaround of vacancies
- ▶ Maintenance work orders
- ▶ Annual inspections

57

Role of the Maintenance Worker

Interim PHAS Rule

- ▶ Aligns PHAS with Asset Management
 - Individual project scoring
 - Physical
 - Financial
 - Management
 - PHA-Wide Capital Fund score
 - Overall PHAS score and designation for agency

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Interim PHAS Rule

- ▶ Scores only Public Housing and Capital Fund programs
- ▶ Assessment relies heavily on:
 - Physical condition of properties
 - Financial condition of properties
 - Occupancy

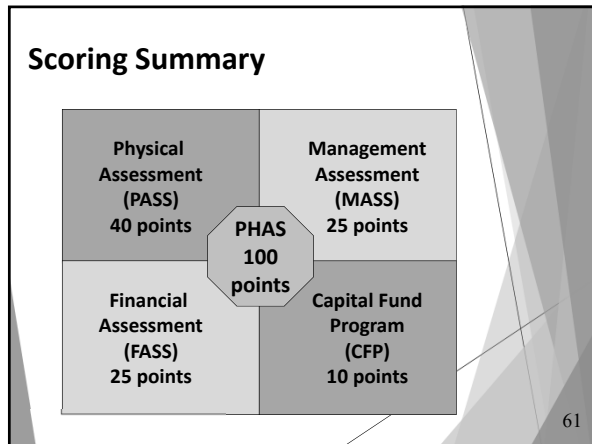
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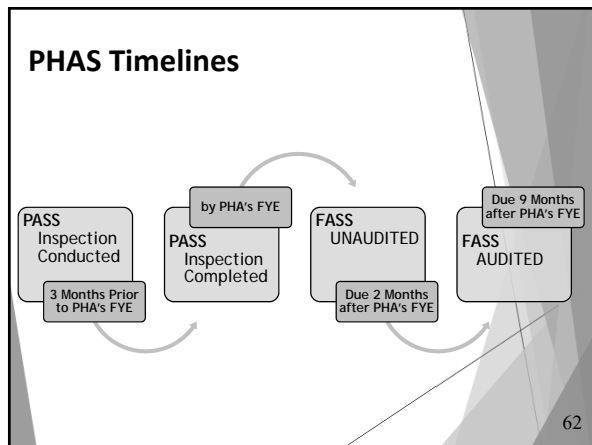
Interim PHAS Data Sources

- ▶ Financial Data Schedules – both audited and unaudited
- ▶ PASS
- ▶ Electronic Line of Credit Control (eLOCCS)
- ▶ PIH Information Center (IMS/PIC)

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Role of the Maintenance Worker





PHAS Designation Status

PHAS Designation	Composite PHAS Score	Individual Indicator Score
High Performer	Overall score of 90% or higher AND	At least 60% of points each for PASS(24), FASS(15) and MASS(15) and 50% of points for CFP(5)
Standard Performer	Overall score of at least 60% AND	At least 60% of points each for PASS(24), FASS(15) and MASS(15) and 50% of points for CFP(5)
Substandard Performer	Overall score of at least 60% BUT	Less than 60% in one or more of PASS, FASS or MASS Indicators
Troubled	Less than 60% overall score	
CFP Troubled	----	Less than 50% on CFP Indicator

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Role of the Maintenance Worker

Designations & Frequency of PHAS Assessments

Small PHAs (Overall PHAS Assessed) less than 250 public housing units			
High Performer	Standard Performer	Sub-Standard Performer	Troubled or CFP Troubled
Every 3 Years	Every 2 Years	Every 2 Years	Every Year

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Designations & Frequency of PHAS Assessments

Large PHAs (Overall PHAS Assessed) 250 or more public housing units			
High Performer	Standard Performer	Sub-Standard Performer	Troubled or CFP Troubled
Every Year	Every Year	Every Year	Every Year

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Physical Assessment Subsystem



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Role of the Maintenance Worker

PASS Physical Inspection Frequency – Small PHAs (*less than 250 units*)

PASS Inspections Based on Overall PHAS Score/Designation		
High Performer ≥ 90	Standard & Sub-Standard 60 - 89	Troubled or CFP Troubled ≤ 60
Every Year	Every Year	Every Year

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PASS Physical Inspection Frequency – Large PHAs

PASS Inspections Based on Individual Project Scores - Unless Troubled			
High Performer ≥ 90	Standard 80 – 89	Sub-Standard ≤ 79	Troubled or CFP Troubled
Every 3 Years	Every 2 Years	Every Year	All Projects in the PHA Inspected Every Year

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Physical Condition Indicator

- ▶ Inspections performed based on individual project performance, unless troubled
- ▶ Units exempted from physical inspection:
 - Undergoing vacant unit turnaround
 - Undergoing rehab in an approved and fully funded rehab plan
 - Off-line units that require repairs that cannot be made in a normal period of time (5 – 7 days)
 - Units off-line for designated use will be inspected as common area

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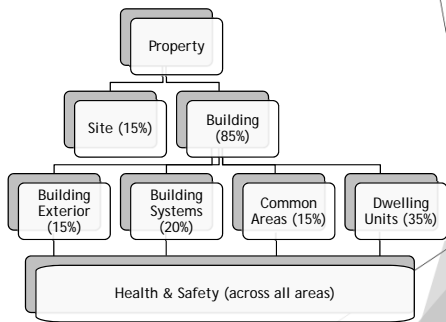
Role of the Maintenance Worker

Physical Condition Indicator

- ▶ Passing score $\geq 60\%$ or at least 24 of 40 points available
- ▶ Statistically valid sampling of occupied units will be inspected as dwelling units
- ▶ Access to units must be granted, even if tenant has installed or changed locks
 - If inspector is not granted access, project will receive a physical inspection score of zero

70

PASS Sub-Indicators & Weights



71

Scoring Inspections

- ▶ Federal Register
 - Public Housing Assessment System (PHAS): Physical Condition Scoring Notice and Revised Dictionary of Deficiency Definitions Notice
 - August 9, 2012

72

Role of the Maintenance Worker

Scoring Methodology

Scores calculated based on:

Area Points x Item Weight x Criticality x Severity

Area Points
 Site = 15 Bldg Systems = 20 Dwelling Units = 35
 Bldg Ext = 15 Common Areas = 15

Item Weight (Examples)
 Smoke Detector = 0 Missing Toilet = 10
 Damaged Ceiling = 4.5 Misaligned Chimney = 15.5

Criticality
 (5) Critical = 5.0 (2) Contributes = 1.25
 (4) Very Important = 3.0 (1) Slight Contribution = 0.5
 (3) Important = 2.25

Severity
 (3) Most Severe = 1.0 (2) Severe = 0.50 (1) Least Severe = 0.25

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Scoring Methodology

Scores Calculated based on:

Area Points × **Item Weight** × **Criticality** × **Severity**

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Severity
 (3) Most Severe = 1.0 (2) Severe = 0.50 (1) Least Severe = 0.25

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Examples of Point Deductions

- ▶ H&S deficiency: Sharp Edges
- ▶ Different deductions for building vs unit

Building Level Deduction		Unit Level Deduction	
ELEMENTS	VALUES	ELEMENTS	VALUES
Possible Points	20	Possible Points	1.4
Item Weight	0.184	Item Weight	0.15
Criticality	3.0	Criticality	3.0
Severity Level	1	Severity Level	1
		1 of 25 units had defect	
Point Deduction	11.04	Point Deduction	0.63

Point Deduction equals Item Weight times Criticality times Severity times Total Possible Points.

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Role of the Maintenance Worker

Physical Inspection Score Alphanumeric Codes

Code	No Health & Safety	Health & Safety Deficiencies			
		NLT	LT/EHS	Fire Safety	
				No Smoke Detector Problem	Smoke Detector Problem
a	X			X	
a*	X				X
b		X		X	
b*		X			X
c			X	X	
c*			X		X

76

Technical Review & Database Adjustments

- Technical review submission
 - 30 days from the date the inspection report is released
- Database Adjustments
 - 45 days from the date the inspection report is released
- HUD's decision on a request for technical review is final and may not be further appealed.

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Technical Review

- Must show that an objectively verifiable and material error occurred
 - Request for must be submitted in writing to REAC, Attn: Technical Review
 - Must be received no later than 30 days following issuance of the applicable results to the PHA
 - Must include evidence to support error

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Role of the Maintenance Worker

What is a Material Error?

- ▶ Building data error
- ▶ Unit count error
- ▶ Nonexistent deficiency error

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Acceptable Evidence Supporting Request

- ▶ Photographic evidence
- ▶ Written material from an objective source, such as:
 - Local Fire Marshall or Code Enforcement Official
 - Licensed or registered architect or professional engineer with the authority to sign and seal or "stamp" documents

80

Actions if Error Found

- ▶ New inspection
- ▶ Correct the inspection report
- ▶ Issue corrected physical condition score
- ▶ Issue a corrected PHAS score

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Role of the Maintenance Worker

Database Adjustments

- ▶ Adjustments for factors not reflected or inappropriately reflected in physical condition score
- ▶ To qualify for adjustment, PHA must notify proper authorities of the deficient element

82

Database Adjustments

- ▶ May request adjustment for specific deficiencies
 - Damage caused by 3rd parties
 - Occupied units undergoing modernization

83

Exigent Health & Safety Deficiencies

- ▶ A PHA may, within 24, abate the effect of an exigent health and safety (EHS) violation and later correct the condition
 - Within 3 business days, certify to HUD all EHS deficiencies were project corrected, remedied, or acted upon to abate within 24 hours after receipt of the Physical Inspection Report

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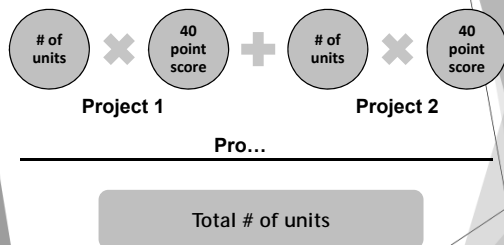
Role of the Maintenance Worker

Exigent Health & Safety Deficiencies

- ▶ Required to expeditiously correct, remedy, or act to abate all H&S deficiencies after receipt of the Physical Inspection Report
 - HUD considers 3 days (72 hours) to meet this requirement

85

Unit Weighted Average Formula



86

Conversion of Inspection Score to 40 Point Score

Property #	Physical Inspection Score (100 point score)	% of PASS Indicator within PHAS	40 Point Score
1	80	X 0.40	= 32.0
2	90	X 0.40	= 36.0
3	30	X 0.40	= 12.0

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Role of the Maintenance Worker

40 Point Score to Unit Weighted Average

Property #	100 point score	40 point score	# of units	Product
1	80	32.0	60	1920
2	90	36.0	103	3708
3	30	12.0	196	2352
Total	---	---	359	7980

$$7980 \div 359 = 22.2$$

PASS Score

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Example: Impact of Project Size on PASS Score (switch the largest & smallest projects)

Property #	100 point score	40 point score	# of units	Product
1	80	12.0	60	720
2	90	36.0	103	3708
3	30	32.0	196	6272
Total	---	---	359	10700

$$10700 \div 359 = 29.8$$

PASS Score

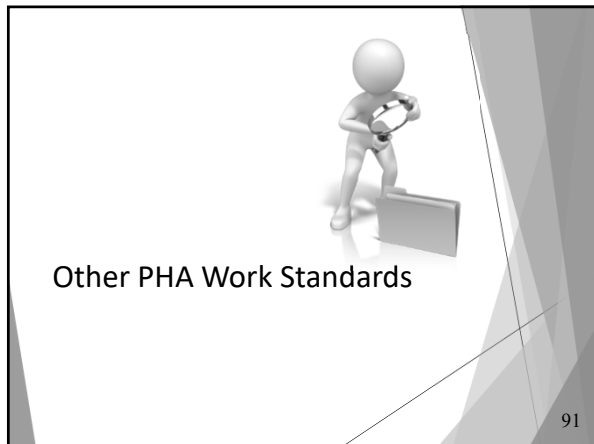
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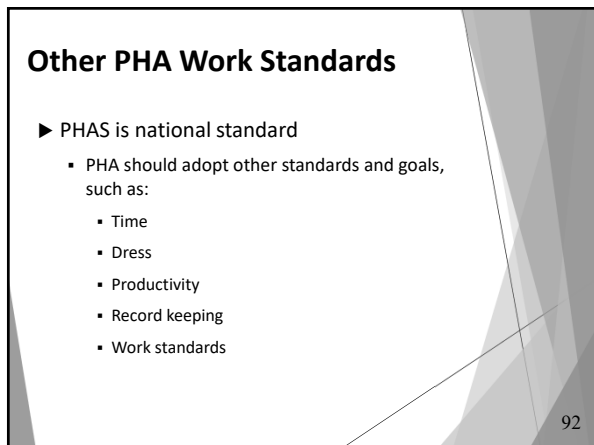
Case Study on 3-2-1 Large PHA

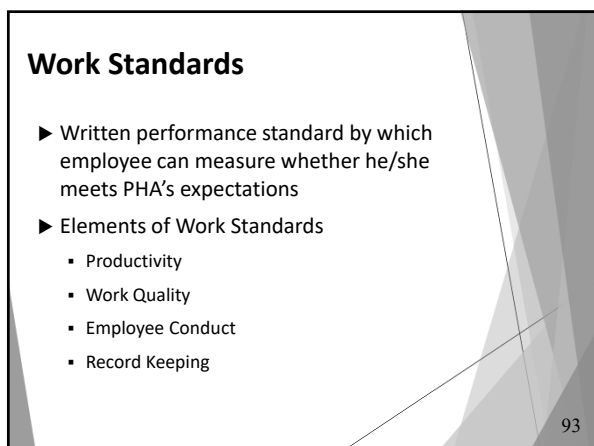
PASS Inspection Scores					
Project	Year 1 ID/Score	Year 2 ID/Score	Year 3 ID/Score	Year 4 ID/Score	Year 5 ID/Score
A	ID101-75	ID201-80	ID201-80	ID401-25	ID501-60
B	ID102-40	ID102-45	ID301-98	ID301-98	ID502-80
C	ID103-60	ID203-90	ID203-90	ID203-90	ID503-75
D	ID104-80	ID104-80	ID302-90	ID302-90	ID504-85
E	ID105-90	ID105-90	ID105-90	ID402-85	ID505-55
Overall PASS Score	58 = 23	60 = 24	92 = 37	75 = 30	70 = 28
Overall PHAS Score	75	80	85	58	65
PHAS Designation	Substandard Physical	Standard	Standard	PHAS Troubled	Standard

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Role of the Maintenance Worker







Role of the Maintenance Worker

Time Standards

- ▶ May be included in work standards
- ▶ May be a separate chart
- ▶ Develop based on:
 - PHA work history
 - RS Means Maintenance

Description	Estimated		
	Cost	Time	
Shower door repair/replace	40.00	0.58	hrs
Shower drain, repair	8.00	0.59	hrs
Toilet, general repair	0.00	1.02	hrs

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Sample Work Standard

- ▶ Exterior Doors
 - Doors will operate smoothly and will not stick. Hardware must be aligned and locks must operate properly. Door opening will be sealed from the weather and have appropriate storm/screen doors, in good repair where applicable.

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Sample Work Standard

- ▶ Work Time Standard
 - Adjust/lube hardware - 30 minutes; replace door - 45 minutes; repair weather stripping - 30 minutes; screen door re-screen - 30 minutes; screen door repair - 30 minutes; screen door replacement - 30 minutes

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Role of the Maintenance Worker

Sample Work Standard

► Litter Removal

- Grounds are free of all cans, paper ,and other litter.
- Work Time Standard:
 - Small Lot: 30 minutes
 - Medium Lot: 1 hour
 - Acreage: 1 - 2 hours

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Sample Work Standard

► Litter Removal

- Grounds are free of all cans, paper, and other litter

Work Time Standard	
Small Lot	30 Minutes
Medium Lot	1 Hour
Acreage	1-2 Hours

98

Sample Work Standard

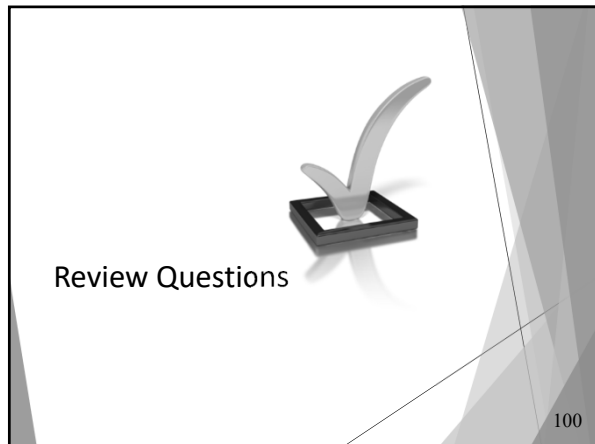
► Water Heater

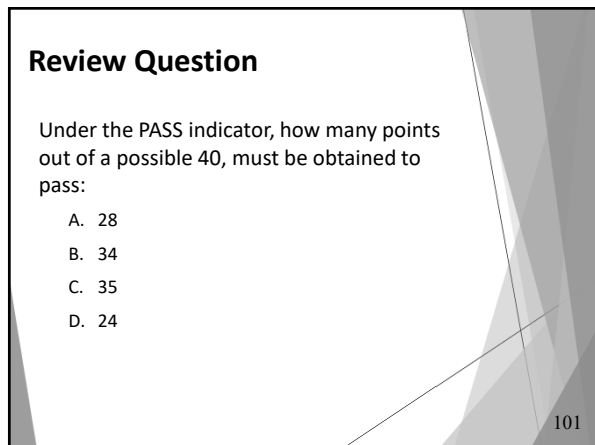
- Replacement/Repair of hot water heater will be done to code. Replacement parts used will meet manufacturers specifications. All gas hook-ups will be tight and leak free. Electric water heaters will be installed with all wires wrapped to prevent shock. There will be no water leaks. Pop off will be in place and drain line will extend to within 18 inches of the floor. Chimney vent will be aligned on gas fueled water heaters.

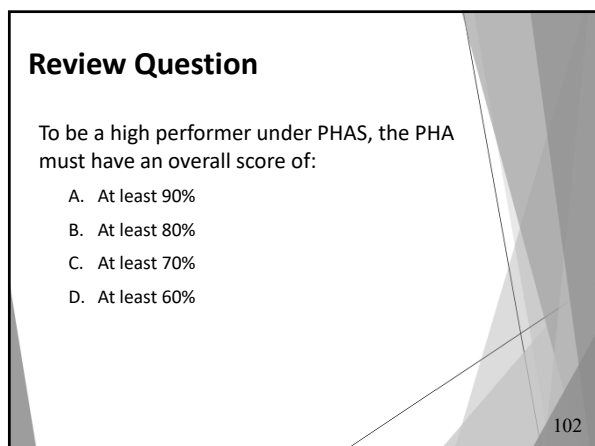
Work Time Standard	
Minor Repair	1 Hour
Major Repair/Replacement	1-2 Hours

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Role of the Maintenance Worker







Role of the Maintenance Worker

Review Question

A PHA must correct all exigent health and safety (EHS) violations within 24 hours after the receipt of the Physical Inspection Report.

- A. True
- B. False

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Review Question

Productivity, work quality, employee conduct, and record keeping are the four elements of what:

- A. Work standards
- B. Positions descriptions
- C. Work order system
- D. Performance evaluation

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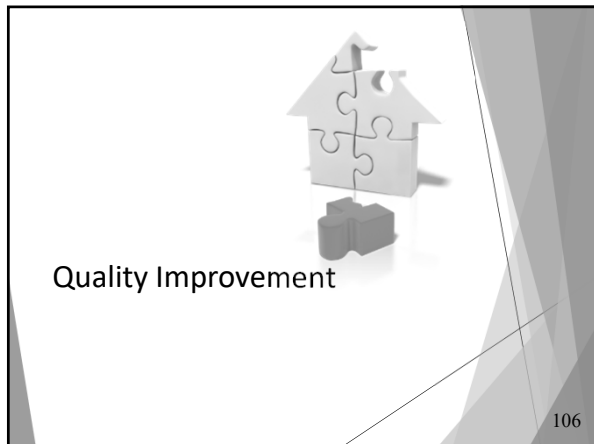
Review Question

Work standards do not explain how to do a job, but describe the expectations of performance.

- A. True
- B. False

105

Role of the Maintenance Worker



99.9% Quality – Is the Goal Reasonable?

- ▶ 2 unsafe plane landings per day at Chicago O'Hare Airport
- ▶ 12 newborns given to the wrong parents daily
- ▶ 20,000 incorrect prescriptions each year
- ▶ 500 incorrect medical procedures performed each week
- ▶ 16,000 pieces of mail lost by the U.S. Post Office every hour
- ▶ 22,000 checks deducted from wrong bank account each hour

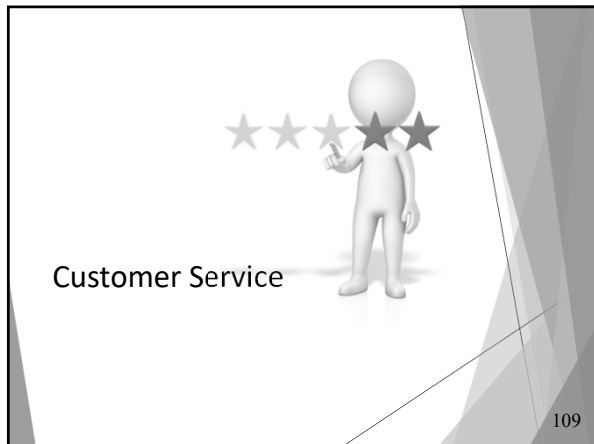
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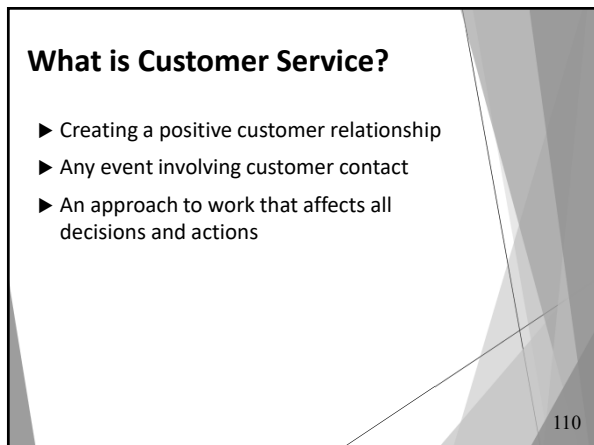
Eight Principles for Quality Improvement

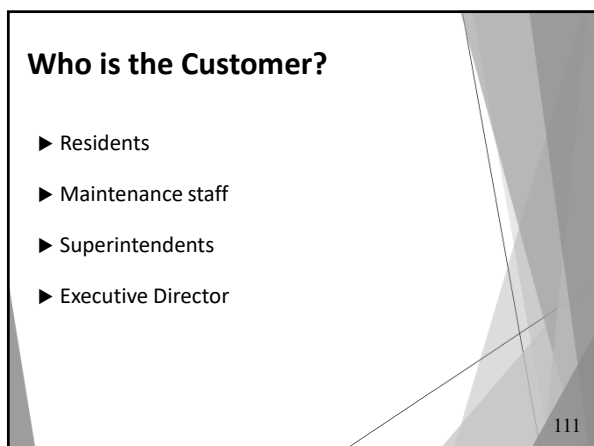
1. Customer Satisfaction
2. Prevention
3. Employee Empowerment
4. Management Commitment
5. Total Responsibility
6. Decisions Based on Data
7. Continuous Improvement
8. Measurement of Quality

108

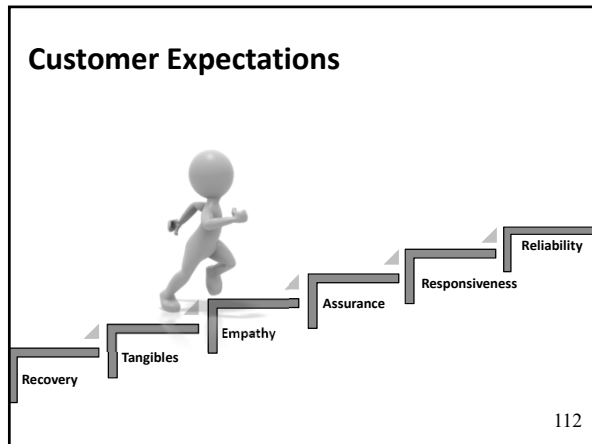
Role of the Maintenance Worker

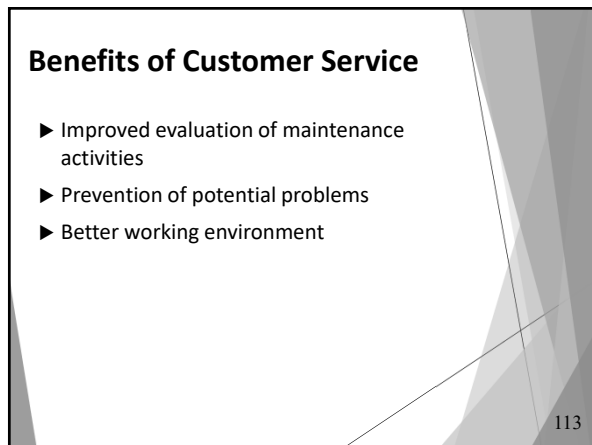


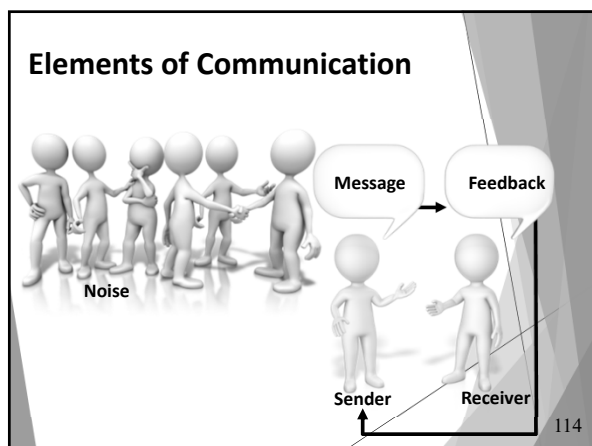




Role of the Maintenance Worker







Role of the Maintenance Worker

Factors in Customer Communication

- ▶ Cultural diversity
- ▶ Social problems
- ▶ Environmental situations
- ▶ Credibility

115

Getting Good Information From Others

- ▶ Focus the Discussion
- ▶ Use open-ended questions to expand discussion
- ▶ Use close-ended questions for specifics
- ▶ Use non-verbal cues
- ▶ State your understanding

116

Getting Your Ideas Across

- ▶ State the main reason for your message
- ▶ Present points to help understanding
- ▶ Check for understanding and reaction
- ▶ Respond to reactions or questions
- ▶ Summarize main point

117

Role of the Maintenance Worker

Treating Customers Fairly

- ▶ Fair Housing
 - Disability Laws; Section 504 Focus
 - Physical Accessibility
 - Units
 - Non-housing facilities
 - Offices

118

Equal Treatment

- ▶ A good starting point – race, color, national origin, religion, and gender
- ▶ Not the ending point
 - Persons with disabilities
 - Familial status – occupancy standards

119

Persons with Disabilities

- ▶ Accessible Units
- ▶ Units with Accessible Features
- ▶ 504 Accessibility (ADA)
- ▶ Visitability (UFAS)

120

Role of the Maintenance Worker

Physical Accessibility

- ▶ UFAS (Uniform Federal Accessibility Standards) apply to:
 - Offices
 - Dwelling units
 - Facilities
- ▶ UFAS is a minimum standard
- ▶ Reasonable accommodation may be required

121

7 Accessibility Requirements

1. Accessible Entrances on Accessible routes of travel
2. Accessible Public and Common Use Areas
3. Usable Doors
4. Accessible Routes Within Dwelling
5. Switches, Outlets, and Environmental Controls
6. Reinforced Walls
7. Usable Kitchens and Bathrooms

122

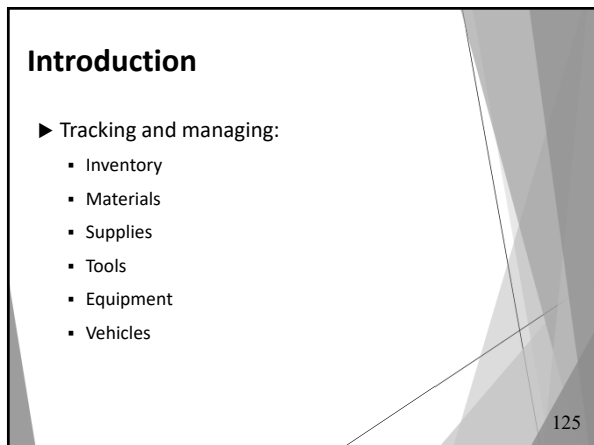
Visitability

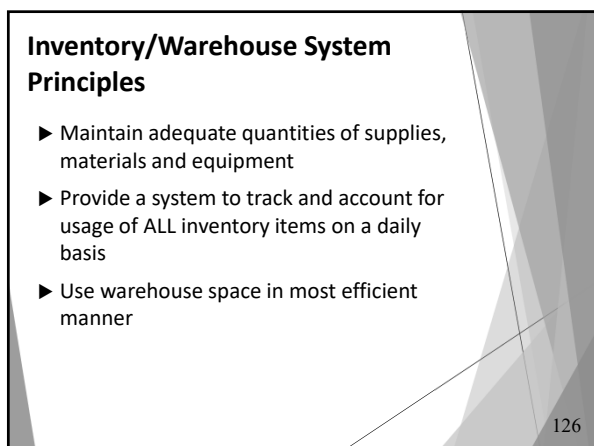
- ▶ Allows persons with physical disabilities to visit residents
 - Accessible route from parking area to unit
 - No steps, high thresholds or steep inclines
 - Minimum entry door clearance of 32 inches

123

Role of the Maintenance Worker







Role of the Maintenance Worker

Inventory

- ▶ Asset Management requires managing inventory by Project
 - Purchasing
 - Recordkeeping
 - Reporting
 - Disposition

127

Inventory

- ▶ Maintenance staff plays an instrumental role in supplying individual project data to management, necessary to project procurement planning for:
 - Supplies
 - Material
 - Equipment
 - Contract costs

128

Inventory Management

- ▶ There must be strict inventory control of supplies, material, and equipment necessary to ensure cost control for all projects.

129

Role of the Maintenance Worker

Inventory Management

- ▶ Standardize inventory items by name
- ▶ Organize a manual inventory system to agree in format with computerized inventory, if applicable
- ▶ Provide procurement training for key staff members

130

Inventory Management

- ▶ Provide training on Internal Controls policy and Fraud Prevention and Detection
- ▶ Put tools and equipment in separate numbered categories
- ▶ Determine all reorder points (numbers)
- ▶ Determine all unit prices (cost of individual inventory items)

131

Inventory Management

- ▶ Hire part-time inventory clerk
 - Full-time if large Agency
- ▶ Dispose of all scrap items
- ▶ Dispose of all obsolete materials
- ▶ Adjust financial accounting records for addition or removal of inventory

132

Role of the Maintenance Worker

Inventory Management

- ▶ Require maintenance staff to list all items and materials used on work orders
- ▶ May use bar code system for tracking inventory items
- ▶ Set up internal inventory audit system
- ▶ Update the list of maintenance charges regularly

133

Inventory Management

- ▶ Establish a control on the movement of tools and equipment items between Projects
- ▶ Establish a work code for installation of water heaters, refrigerators, and ranges in the work order system
- ▶ Record model and serial numbers of appliance on leases

134

Inventory & Work Order System

- ▶ The system should be designed to adjust inventory as:
 - Material is used
 - Transferred to a specific project
- ▶ Train maintenance staff
- ▶ Require accurate information on work orders

135

Role of the Maintenance Worker

Inventory Tracking System

- ▶ PHA's inventory divided into 2 types of properties
 - Non-Expendable
 - Expendable

136

Establishing Reorder Points

- ▶ Reorder Point
 - A level above your safety stock at which an order will be placed to replenish each inventory item
- ▶ Safety stock
 - An amount always kept on hand to prevent out of stocks caused by late deliveries or unexpected heavy use
- ▶ Establish order quantities

137

Reorder Point Exercise

- ▶ Given an average monthly usage of 35 toilet float assemblies and a 30 day delivery time, calculate:
 - Safety Stock 35
 - Reorder Point 70
 - Order Quantity 105

138

Role of the Maintenance Worker

Planning for Procurement

1. Need date (September 1)
2. Time allowed for delivery (30 days)
3. Purchase order issue (July 31)
4. Time to solicit bids or proposals (15 days/solicit July 14)
5. Date for submitting requisition (July 13)
6. Total days needed = 49

139

Inventory Card Information

- ▶ Item number
- ▶ Item description
- ▶ Original cost of item
- ▶ Order point
- ▶ Reorder quantity
- ▶ Safety stock level
- ▶ Dates of issue
- ▶ Dates of receipt
- ▶ Work order numbers
- ▶ Quantity issued
- ▶ Quantity received
- ▶ Balances on hand

140

Stock Room Inventory Card

Stock Room Inventory Card					
Expendable Item Description:			Safety Stock		Order Quantity
Reorder Point					
Date	Work Order #	Amount Issued	Receipts	Stock Balance	Supervisor Signature
Order No.	Supplier	Quantity Ordered	Order Record Delivery Date	Quantity Received	

141

Role of the Maintenance Worker

Equipment Tracking Card Information

- ▶ Item description (including brand name)
- ▶ ID or serial number
- ▶ Date purchased
- ▶ Issue date
- ▶ To whom issued
- ▶ Return date
- ▶ Signature of responsible person

142

Equipment Tracking Card

Inventory Tracking Card				
Item: _____		ID Serial Number: _____		
Date Purchased: _____				
Date Issued	To Whom	Signature	Date Returned	Signature

143

Review Questions



144

Role of the Maintenance Worker

Review Question

Maintenance employees must deal with both internal customers and external customers.

- A. True
- B. False

145

Review Question

Communication skills have little impact on a maintenance person's job performance.

- A. True
- B. False

146

Review Question

UFAS (Uniform Federal Accessibility Standards) is the only code that Housing Agencies must be concerned about when dealing with persons with disabilities.

- A. True
- B. False

147

Role of the Maintenance Worker

Review Question

An effective Inventory/warehousing system allows maintenance to:

- A. Maintain adequate quantities of supplies, materials, and equipment
- B. Track and account for the usage of all inventory items on a daily basis
- C. Use warehouse space in the most effective manner
- D. All the above

148

Review Question

Reorder points should be established for all inventory.

- A. True
- B. False

149



Personal Safety on the Job

150

Role of the Maintenance Worker

Components of Effective Safety Procedures

- ▶ Awareness
- ▶ Sharing street sense
- ▶ Communication
- ▶ Techniques for identifying and avoiding danger
- ▶ Policy of “see but don’t see crime”
- ▶ Ongoing staff-resident relations

151

Hazards to Personal Safety

- ▶ Violence
- ▶ Physical Hazards
- ▶ Health Hazards
- ▶ Improper use of tools and equipment
- ▶ People

152

Occurrences of Violence

- ▶ Between employees
- ▶ To and from site
- ▶ On site

153

Role of the Maintenance Worker

Violence in the Workplace

► Causes

- Sense of alienation
- Sense of lack of respect

154

Violence in the Workplace

► Signs of Risk

- Makes impulsive outbursts
- Disregards consequences
- Claims victim status
- Exhibits manic mood swings

155

Violence in the Workplace

► Respond promptly and consistently!

- Define and Document
- Offer counseling/anger management
- Use discretion

156

Role of the Maintenance Worker

Avoiding Violence in the Workplace

- ▶ Conduct background checks
- ▶ Zero tolerance policy
- ▶ Training
- ▶ Confidential reporting system
- ▶ Respectful practices
- ▶ Violence intervention programs
- ▶ Reduction of workplace stressors

157

To and From Work Site Procedures

- ▶ Check in with Property Manager
- ▶ Park at manager's office
- ▶ Require staff to wear uniforms
- ▶ Schedule staff together
- ▶ Avoid loitering people
- ▶ Drop-off and pick up from high crime areas
- ▶ Expand resident watch program
- ▶ Take only pertinent equipment

158

Onsite Procedures

- ▶ Have communications available
- ▶ Require regular site checks
- ▶ Announce yourself upon entry
- ▶ Use caution when entering empty units
- ▶ Lock yourself in
- ▶ Have staff check in
- ▶ Arrange for police

159

Role of the Maintenance Worker

Onsite Procedures

- ▶ Require resident presence when possible
- ▶ Do not go into units when no adult is home but children are in unit
- ▶ Avoid compromising situations
- ▶ Report situations to supervisor

160

Occupational Safety

- ▶ Don't wait for OSHA inspection
- ▶ Correct safety problems for safety's sake
- ▶ Moral and legal responsibility
- ▶ Maintain records

161

Safety Program

- ▶ Safety manual
- ▶ Training and safety programs
- ▶ Safety inspections
- ▶ Enforcement of rules
- ▶ Incentive programs
- ▶ First aid training for supervisors
- ▶ Clean up procedures

162

Role of the Maintenance Worker

Employee Responsibility

- ▶ Comply with requirement
- ▶ Inform employees of standards and PHA's mission to protect them
- ▶ Observe visual warning signs
- ▶ Attend safety training

163

Employee Responsibility

- ▶ Read OSHA posters on job site
- ▶ Comply with applicable standards
- ▶ Follow PHA safety and health rules
- ▶ Report hazardous conditions to supervisor
- ▶ Report job related injuries and illness and seek treatment promptly

164

Commitment to Safety & Health

- ▶ All maintenance staff should:
 - Practice safe work habits
 - Understand that safety rules protect your health and ability to earn income
 - Identify problems and potential risks and report hazardous conditions
 - Use personal protective equipment (PPE)
 - Provide input on reducing or eliminating risks

165

Role of the Maintenance Worker

Commitment to Safety & Health

- ▶ Rethink how to change a physically demanding job to make safer or less demanding.
 - For example, replace string mops
 - Use lightweight microfiber mops that can be detached and laundered
 - Use lightweight telescopic pole to extend reach and minimize awkward body postures

166

Effective Training

- ▶ OSHA requires regular training
- ▶ Present PHA's safety policies, procedures and steps to take in emergencies
- ▶ Encourage proper body mechanics, handling of chemicals and use of PPE
- ▶ Include demonstrations and visual aids

167

Equipment Safety

- ▶ Ensure correct and appropriate use
- ▶ Perform routine service and simple repairs
- ▶ Report for repairs as soon as there is a malfunction

168

Role of the Maintenance Worker

Personal Safety

- ▶ Avoid working in awkward position
- ▶ Do not remain in same position for long time or with little movement
- ▶ Avoid continuous pressure from a hard surface

169

Personal Safety

- ▶ Take frequent breaks when handling equipment that vibrates
- ▶ Use the right tools for the job
- ▶ Make sure your tools and equipment are in good working order
- ▶ Identify tasks that require PPE
- ▶ Alternate heavy and lighter tasks throughout the day, if possible

170

Personal Safety

- ▶ Lift properly
- ▶ Use equipment properly
- ▶ Be aware of your surroundings
- ▶ Work at an appropriate pace

171

Role of the Maintenance Worker

Use of Chemicals

- ▶ Know location of the written hazard communication program, including Material Safety Data Sheets (MSDS)
- ▶ Free use websites containing access to over downloadable and printable MSDSs
 - www.ilpi.com/MSDS
 - www.msds.com
 - www.hazard.com/msds/index.php
 - www.greenbook.net

172

Safe Use of Chemicals

- ▶ Learn how to handle and use chemicals safely
 - Use products as directed
 - Never mix products (i.e. bleach and ammonia)
 - Follow MSDS and instructions on container
 - Dilute to reduce concentration
 - Store chemicals separately from one another

173

Chemicals

- ▶ **Hazardous** means the likelihood that a substance might cause injury.
- ▶ **SDS** have information on health hazards, specific physical characteristics of chemicals, protective measures and precautions for safe handling, use & storage of each chemical

174

Role of the Maintenance Worker

Wear PPE Correctly

- ▶ Always start out with new or freshly cleaned gloves and footwear
- ▶ Whenever you suspect chemicals have gotten inside gloves
 - Change them
 - Wash skin immediately

175

Wear PPE Properly

- ▶ If arms will be raised when using chemicals, close cuff of glove tightly outside the sleeve with heavy duty tape or an elastic band or fold glove back into a cuff to catch chemicals before running onto arm.
- ▶ If arms will be mostly lowered, place sleeves outside gloves to keep chemicals from running down sleeves into gloves.
- ▶ Use gloves that go at least half way to elbow

176

Chemical Resistance

- ▶ Protective garments and gloves are not equally effective for every hazardous chemical
 - ▶ Select right garment/glove for the chemical used
 - ▶ Key to Chemical Resistance Chart
- E – excellent G – good F – fair P – poor
(not recommended)

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Role of the Maintenance Worker

CHEMICAL RESISTANCE CHART					
	Natural Rubber	NBR Nitrile	Neoprene	PVC	PVC/ Nitrile
Adhesives:					
-Epoxy	E	E	E	E	E
-Solvent Based	P	G	F	F	G
-Water Based	E	E	E	E	E
Herbicides and Insecticides:					
-Oil Based	P	E	G	E	E
-Water Based	E	E	E	E	E
Oils:					
-Animal	P	E	G	G	E
-Cutting	P	G	F	G	E
-Fuel	P	E	E	G	E
-Hydraulic Petroleum	P	E	G	G	E
-Hydraulic Ester	P	F	G	G	G
-Mineral	P	E	G	E	E
-Petroleum	P	E	E	E	E
-Silicone	E	E	E	E	E

	Natural Rubber	NBR Nitrile	Neoprene	PVC	PVC/ Nitrile
Acetic Acid	E	G	E	E	E
Acetone	E	P	G	P	F
Ammonium Hydroxide	E	E	E	E	E
Alcohols (Most Common)	E	E	E	E	E
Butyl Acetate	P	P	P	E	E
Battery Acid	P	P	P	E	E
Bleach Solutions	F	F	F	E	E
Chromic Acid & Citric Acid	E	E	E	E	E
Dimethylformamide	E	F	G	P	F
Glycols	E	E	E	E	E
Gasoline/Kerosene/Creosote	P	E	G	F	G
Hydrochloric Acid (Conc.)	G	E	E	E	E
Plasticizers	P	G	F	P	F
Methyl Ethyl Ketone	G	P	P	P	F
Methyl Isobutyl Ketone	P	P	P	P	F

	Natural Rubber	NBR Nitrile	Neoprene	PVC	PVC/ Nitrile
Mineral Spirits	P	E	G	P	F
Naphtha	P	E	F	F	G
Nitric Acid (Conc.)	P	E	F	F	G
Nitric Acid (Dil.)	G	E	E	E	E
Phenol/Carbolic Acid	F	P	G	G	G
Phosphoric Acid	G	E	E	E	E
Picric Acid	E	E	E	E	E
Potassium Hydroxide	G	E	G	E	E
Polyester Resin	E	E	E	E	E
Sodium Hydroxide	G	E	G	E	E
Sulfuric Acid (Conc.)	P	P	P	E	E
Sulfuric Acid (Dil.)	E	E	G	E	E
THF (Tetrahydrofuran)	P	P	P	P	P
Toluene	P	P	P	P	F
Turpentine	P	E	P	F	G
Urea	E	E	E	E	E

Role of the Maintenance Worker

Clean Up Procedures

- ▶ **Never** reuse gloves
- ▶ Wash with soap and water
- ▶ Do not eat, drink, or smoke, apply cosmetics, or handle contact lenses near contaminated area
- ▶ Dispose or decontaminate equipment

181

Transmission of Disease

- ▶ Droplet contact – Coughing or sneezing on another person
- ▶ Direct physical contact – Touching an infected person or their body fluid
 - (contagious, not infectious)
- ▶ Fecal-oral transmission – Usually from contaminated food or water sources

182

Transmission of Disease

- ▶ Indirect contact – Touching soil contamination or a contaminated surface
- ▶ Airborne transmission – If microorganism can remain in air for long periods
- ▶ Vector borne transmission – Carried by insects or animals

183

Role of the Maintenance Worker

Bloodborne Pathogens

- ▶ Not transmitted by casual contact
- ▶ Protect yourself from hidden dangers
- ▶ Take precautions to reduce exposure
- ▶ Get tested if you fear you've been infected

184

Precautions to Prevent Exposure

- ▶ Gloves of latex, nitrile or rubber
 - If in doubt, double glove
- ▶ Use face shields and/or goggles
- ▶ Use a breathing mask if administering CPR
- ▶ Wash/sanitize hands before and after use of gloves

185

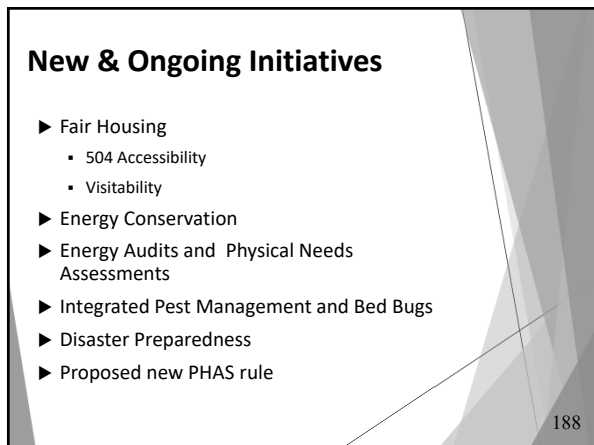
Precautions to Reduce Exposure

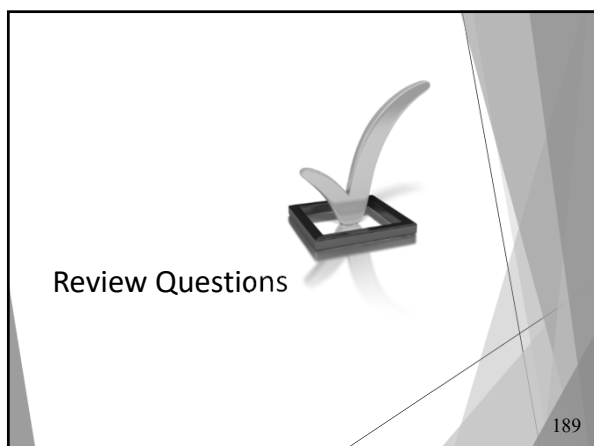
- ▶ Treat all bodily fluids as if infected
- ▶ Minimize exposure to splashing and splattering
- ▶ Confine bodily fluids to small area
- ▶ Follow hazardous material clean up procedures
- ▶ Know location of first aid kits

186

Role of the Maintenance Worker







Role of the Maintenance Worker

Review Question

To reduce exposure of maintenance staff to incidents of crime and violence on the work site, which of the following is not a good practice:

- A. Have communication available
- B. Break up domestic violence situations
- C. Secure vacant units when inside alone
- D. When entering a work site, announce presence loudly

190

Review Question

What Federal agency sets standards and monitors work safety:

- A. Operational Safety and Human Resource Agency
- B. Occupational Space and Health Administration
- C. Occupational Safety and Health Administration

191

Review Question

Maintenance employees are required to participate in safety training on a regular basis.

- A. True
- B. False

192

Role of the Maintenance Worker

Review Question

Chemicals can enter the body through the skin, eyes or mouth.

- A. True
- B. False

193

Review Question

Blood-borne pathogens can be transmitted by casual contact.

- A. True
- B. False

194

We appreciate your participation!

For any class questions or follow-up, please contact Vicki Brower:

817.922.9000 ext. 123 ♦ vicki@nelrod.com

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Role of the Maintenance Worker

Mark Your Calendars!

**The 19th Annual
Nelrod Consortium Conference
March 27 – 29, 2019**



Information at
www.nelrod.com
