PENNSYLVANIA STATE FIRE ACADEMY
HAZARDOUS MATERIALS OPERATIONS
NFPA 470 – 2022 Edition

Attention: All certification candidates are required to have an established and up to date user portal account in the PA State Fire Academy's Acadis Learning Management System prior to participating in **ANY certification testing opportunity. Please log in to your Acadis portal account and update all personal information before submitting your certification application. (Access can be gained through the OSFC website – Training and Certification Portal).

Hazardous Materials Operations – Skill Stations
NFPA 470, 2022 Edition: Chapter 9

	Mission Specifics (Chapter 9)	
Station K	Detection, Monitoring, and Sampling (9.7)	Optional

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STATION K: Detection, Monitoring, and Sampling		**Reference NFPA 470 (2022 Edition) Chapter Mandatory Station: JPR 9.7.1**	
Test Site	Test Date	Candidate #	Check the Test Type _____Initial _____Retest

Evaluator's Note: Each candidate will be given two detection, monitoring, and sampling devices to perform basic field maintenance, calibration, bump test, and field testing of devices. Candidate must be given one device from **List 1**, one device from **List 2**, and each candidate MUST utilize pH paper during field testing of detection, monitoring, and sampling devices.

List 1	List 2
Multi-Gas Meter	Photo Ionization Detector
Thermal Imaging Camera or Temperature Gun	Radiation Meter

Directions: Given a scenario involving a HAZMAT and/or WMD, the candidate will perform basic field maintenance, calibration, and while wearing appropriate PPE will perform detection, monitoring, and sampling field testing actions. The candidate will read and interpret the values listed on the devices, record these readings and communicate the readings to command. Candidate will then proceed through decontamination and demonstrate the manufactures approved decontamination of the detection, monitoring, and sampling device. Lastly, the candidate will perform maintenance according to manufacturer's instructions and all required records and supporting documentation will be completed and up channeled.

Performance Outcome: Pass / Fail is determined by **AL**L of the tasks being correctly performed.

No.	Tasks	Yes	No
1	Establishes control zones and an Incident Command System (ICS)		
2	Selects, dons and doffs appropriate PPE		
Use and Field Maintenance of Monitoring Device			
	Monitoring Device: _____		
3	Properly operates device		
4	Demonstrates basic field maintenance of device		
5	Demonstrated field calibration procedure of device (if applicable)		
6	Demonstrated field testing of device		
7	Properly interprets readings		
	Monitoring Device: _____		
8	Properly operates device		
9	Demonstrates basic field maintenance of device		
10	Demonstrated field calibration procedure of device (if applicable)		
11	Demonstrated field testing of device		
12	Properly interprets readings		
13	Candidate utilizes pH paper correctly		
14	Verbalizes how selection of detection equipment was determined		
15	Verbalizes importance of working with technical specialist, allied professional, and a SOP or response plan(s)		
16	Verbalizes procedure for cleaning/decontamination and maintenance of equipment based on manufacturers recommendations		
17	Completes reporting documentation for detection, monitoring and sampling operations		
18	Communicates results of detection, monitoring and sampling.		
19	Completes all tasks without compromising personal or team safety		
	Please indicate skill outcome	PASS	FAIL

Comments and Evaluator signature on back side of form

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Test Site	Test Date	Candidate #	Check the Test Type _____Initial _____Retest

Evaluator Comments: _____

_____

_____

_____

Evaluator Signature: _____ **Evaluator #:** _____

Detection, Monitoring, and Sampling Worksheet and Report

Sample type SOLID LIQUID GAS

Monitor type _____

Monitor readings _____

pH Level of the product/material spilled _____

Type of sample taken _____

Location sample taken from _____

Sample taken by _____

Date/Time Sample taken _____

Sample decontaminated YES NO

Sample Chain of Custody
Decontaminated By _____

Sample Given to _____Date/Time _____

Sample Given to _____Date/Time _____

Sample Given to _____Date/Time _____

Sample Given to _____Date/Time _____

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PSFA Hazmat OPS
Hazmat Tactical Worksheet

Incident Location: _____ Time: _____ Date: _____

Site Rep: _____ Contact: _____

ICP Location: _____

LIFE SAFETY

__ Primary Search

__ Evacuation

__ Site Access Control

__ Secondary Search

__ Medical Unit

__ Decontamination

__ Rehab

PRODUCT INFORMATION ERG Guide Page #: _____

Product Name: _____ UN ID# _____

Solid___ Liquid___ Gas___ Quantity _____

Reacts with water ___ Water Soluble _____ Inhalation Hazard _____

Specific Gravity _____ Vapor Density _____ Vapor Pressure _____

TLV/Ceiling _____ IDLH _____ REL ____ Boiling Point _____

Freezing Point _____ Flash Point _____ LEL _____ UEL _____

PPE _____

Respiratory Protection _____

NFPA 704

DOT Placard

Hazard ID Numbers

Container Information

Pressure ___

Non-Pressure ___

Bulk ___ Shipping Papers ___

Transport ____ SDS _____

Other _____

Weather Information

Temp _____

Humidity _____

Wind Speed _____

Wind Direction _____

Resources on Scene

_____

_____

_____

_____

_____

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PSFA Hazmat OPS
Hazmat Tactical Worksheet

Air Readings at Command Post

Initial Readings and at 5-minute intervals

Date ___________

Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm
Time ___________	O_2 _____%	CO _____ppm	LEL _____%	H_2S _____ppm	HCN _____ppm

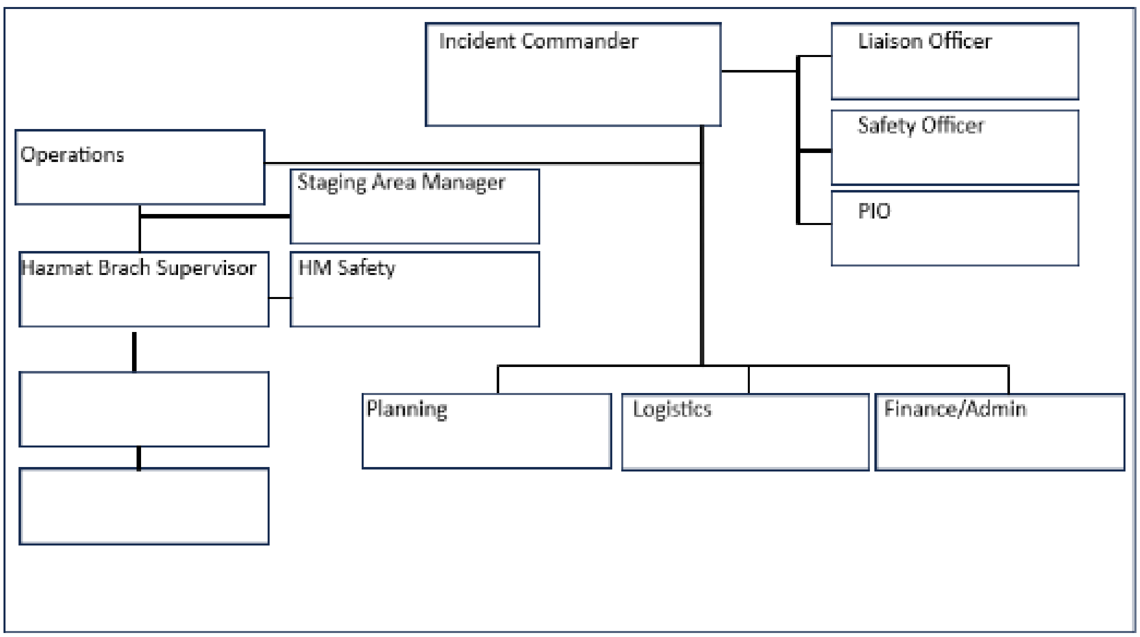
Attach additional sheets if necessary

ACTIONS TAKEN

____ Rescue
___ Evacuation
___ Isolation Zone
___ Air Monitoring
___ Deny Entry

___Em Decon
___ Pads
___ Booms
___ Dam/Dike/Divert
___Retain

___ Oil Dry
___ Hazmat Unit
___ None
___ Other



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PSFA Hazmat OPS
Hazmat Tactical Worksheet

Site Sketch

Situation Summary and Health and Safety Briefing Information:

Current and Planned Objectives:

PSFA Hazmat OPS
Hazmat Tactical Worksheet

Additional Information or NOTES

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Hazardous Materials Dilution Worksheet and Report

Product/Material spilled _____

Product/Material solubility _____

Amount of product/material spilled _____ gallons

pH Level of the product/material spilled _____

pH level desired for dilution _____ pH

Amount of water to dilute product/material _____ gallons

Area to retain water is large enough? YES NO

Dilution decision GO NO-GO

Final pH of product/material after dilution _____ pH

Any product/material escape the retention area YES NO

Were Dilution operations successful YES NO

Report given to Command/IC/Operations? YES NO

Additional Notes/Comments: _____
_____
_____
_____

Report completed by: _____

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Pennsylvania State Fire Academy
Personal Protective Equipment Inspection Checklist

USER Name	Inspection Date

Instructions:
1. This checklist shall be used for a structural firefighting ensemble only
2. Soiled or contaminated gear shall be cleaned prior to inspection
   Definitions:
   "Soiled" – Soil easily transfers from one surface to another
   "Contamination"- Presence of a visual or odorous foreign substance
3. Universal precautions shall be used if the gear is soiled or contaminated
4. The following inspection elements should not be considered all inclusive. In the event that you find something that requires further inspection, do not hesitate to have it inspected further
5. The inspection should in no way be interpreted as complying with the Advanced Inspection requirements established by NFPA 1851 **Selection, Care, and Maintenance of Structural Fire Fighting Protective Ensemble,** 2014 edition
6. Place an X in the appropriate box (P)ass or (F)ail

Helmet Make: Model: S/N:

	P	F		P	F
Contamination			Suspension system		
Soiling			Damaged or missing reflective trim		
Shell Damage: Cracks, crazing, dents, abrasions or thermal damage			Liner Damage: Rips, tears, or thermal damage		
Damaged or missing components			Loss of Seam Integrity		

Eye Protection

	P	F
Damaged or missing components to faceshield or goggle system		

Hood

	P	F		P	F
Contamination			Rips, tears, cuts or thermal damage		
Soiling					
Loss of Face Opening adjustments / shrinkage			Loss of Seam Integrity; Broken or missing stitches		

Footwear Make: Model:

	P	F		P	F
Contamination			Rips, tears, punctures or thermal damage		
Soiling			Loss of water resistance		
Closure system damage					
Damaged or deformed safety toe, mid-sole, and shank			Loss of Seam Integrity; Broken or missing stitches		

Drag Rescue Device (DRD)

	P	F		P	F
Contamination			Installed correctly		
Soiling					
Cuts, tears, punctures, splitting, or thermal damage			Loss of Seam Integrity; Broken or missing stitches		

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Coat – Make:	Model:	S/N:			
	P	F		P	F
Contamination			Rips, cuts, tears, or thermal damage		
Soiling			Correctly assembled		
2" Coat to Pants overlap					
Damaged or missing hardware and closure system			Loss of Seam Integrity; Broken or missing stitches		

Pants – Make:	Model:	S/N:			
	P	F		P	F
Contamination			Rips, cuts, tears, or thermal damage		
Soiling			Correctly assembled		
Damaged or missing hardware and closure system			Loss of Seam Integrity; Broken or missing stitches		

Gloves					
	P	F		P	F
Contamination			Rips, cuts, tears, or thermal damage		
Soiling			Inverted liner		
Shrinkage			Loss of elasticity and flexibility		
			Loss of Seam Integrity; Broken or missing stitches		

Interface Components(items such as wristlets and collars)					
	P	F		P	F
Contamination			Loss of effectiveness		
Soiling			Physical damage		
			Loss of Seam Integrity; Broken or missing stitches		

COMMENTS:

ANY DAMAGE NOT INCLUDED IN THIS CHECKLIST SHALL REQUIRE AN ADVANCED INSPECTION

Inspected by:	Signature:

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PSFA Chemical Protective Clothing Inspection Form

Before Use Inspection

Visual Inspection of CPC # _____

Suit Size: _____ **Suit Material:** _____

Inspected by: _____

Inspection Date: _____

	Good	Unsat		Good	Unsat
CLOTHING (CPC)					
Imperfect Seams			Stiffness		
Nonuniform Coatings			Evidence of chemical attach such as discoloration, swelling, stiffening, softness		
Tears					
Malfunctioning Closures					
Observe for cracks			Closure failure		
Observe for shelf deterioration			Tears		
Discoloration			Punctures		
Swelling			Seam discontinuities		
GLOVES					
Pressurize gloves to check for pinholes					
ENCAPSULATING SUITS					
Check faceshield for			Operation of pressure relief valves		
Cracks			Fitting of wrists, ankles, neck		
Crazing					
Fogginess					