Department of Energy
Carlsbad Field Office
P. O. Box 3090
Carlsbad, New Mexico 88221

MAY 3 1 2016

Mr. John E. Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87508-6303

Subject: Live Fire Training Documentation in Accordance with Attachment 25 of the Information required by Paragraph 31 of the Settlement Agreement and Stipulated Final Order No. HWB 14-21 (CO), Dated March 18, 2016

Reference: Information required by Paragraph 31 of the Settlement Agreement and Stipulated Final Order No. HWB 14-21 (CO), March 18, 2016

Dear Mr. Kieling:

The purpose of this letter is to provide the live fire training documentation in accordance with Attachment 25 of the reference submittal by the Respondents. Attachment 25 provided a work plan stating that the training documentation for live fire training would be submitted to the New Mexico Environment Department (NMED) by June 1, 2016.

Enclosed are the approved course material and lesson outline for SAF-502F, "Fire Extinguisher Live Fire Training."

We certify under penalty of law that this document and all attachments were prepared under our direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on our inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of our knowledge and belief, true, accurate, and complete. We are aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact Mr. George T. Basabilvazo at (575) 234-7488 if you have any questions.

Sincerely,

Original Signatures on File

Todd Shrader, Manager
Carlsbad Field Office

Philip J. Breidenbach, Project Manager
Nuclear Waste Partnership LLC

Enclosure

cc: w/enclosure
K. Roberts, NMED *ED
R. Maestas, NMED ED
C. Smith, NMED ED
CBFO M&RC
*ED denotes electronic distribution

CBFO:EPD:GTB:MR:16-0533:UFC 5486.00

Attachment 1 – Material Verification Sheet

Lesson Plan Cover Page and Material Verification Sheet

Course Code: SAF-502F	Course Title: Fire Extinguisher Live Fire Training	Date: 04/28/2016
Course Author/Designer-Developer: Craig Heine		
Revision Number: 0	RCRA Screen Required: ☐ Yes ☒ No	Course Length/Contact Hrs.: 4

Revision Change Description: New course to support the training of individuals who are required to maintain fire extinguisher readiness to perform job function.

Course Materials Included in Package (Lesson Plan, Student Guide, Student Hand Outs, Exam):

Lesson Plan/ Handout, Exams, OJE/OJT

Instructor Aids and Equipment:

- ☐ Lap Top
- ☐ Thumb Drive
- ☐ Projector
- ☐ Wireless Remote Presenter
- ☐ Flip Chart
- ☐ Flip Chart Markers
- ☐ Dry Erase Markers
- ☐ Post It Pads
- ☒ Attendance Sheet
- ☐ Other _____

Student Aids and Supplies:

- ☐ Hi Lighters
- ☐ Note Pads
- ☐ Flip Charts
- ☐ Flip Chart Markers
- ☐ Dry Erase Markers
- ☒ Pens
- ☐ Pencils
- ☐ Post It Pads
- ☐ Other _____

Terminal Objective: Upon successful completion of this course the student will have the necessary knowledge and skills to use a portable fire extinguisher. Satisfactorily complete the Job-Performance-Measure (JPM)

Enabling Objectives:

1. Review the applicable regulations and procedures
2. Define the purpose of a fire extinguisher
3. State the difference fire classifications and characteristics
4. State different types of fire extinguishers and identification
5. Demonstrate how to operate a fire extinguisher
6. State the hazards associated to incipient stage fires
7. Describe when not to fight a fire

References: OSHA- 29CFR1910.157, WP 12FP.01

Target Audience:

- ☐ Fac Ops
- ☐ Maintenance
- ☐ Work Control
- ☐ Engineering
- ☐ Quality Assurance
- ☐ RadCon
- ☐ Technical Training
- ☒ UG/Mining
- ☐ Waste Handling
- ☐ Industrial Hygiene
- ☐ Safety
- ☐ Security
- ☐ Environmental
- ☐ Procedures
- ☐ Supervisors/Managers
- ☐ General Personnel
- ☒ Other Those requiring Unescorted U/G Access

Internal Requirements/Drivers (WIPP Procedures)	External Requirements/Drivers (DOE, OSHA, MSHA)
WP 12FP.01	OSHA 29 CFR 1910.157

Include the following Signatures

Content Designer /Developer Craig Heine Original Signature on File 28 Apr. 2016
Print Sign Date

Course Instructor (if designated)
Craig Heine Original Signature on File 28 Apr. 2016
Print Sign Date

Reviewer (SME)
Jesse Greenfield Original Signature on File 4/28/16
Print Sign Date

Approver
Cognizant Manager
Jesse Greenfield for Bernie Till Original Signature on File 4/28/16
Print Sign Date

Approver
Training Operations Manager
CINDY KRUGER Original Signature on File 4/28/16
Print Sign Date

Fire Extinguisher Live Fire Training

SAF-502F

NWP
Nuclear Waste Partnership LLC
A URS-led partnership with BSW and AREVA

1

Terminal Objective

- **Upon completion of this course, the student will have the necessary knowledge and skills to use a portable fire extinguisher.**
- **Mastery of the terminal objective will be demonstrated by scoring 80% or higher on the written exam.**
- **Satisfactorily completing the Job Performance Measure (JPM).**

2

Enabling Objectives

1. Review applicable regulations and procedures.
2. Define the purpose of a fire extinguisher.
3. State the difference fire classifications and characteristics.
4. State different types of fire extinguishers and identification.
5. Demonstrate how to operate a fire extinguisher.
6. State the hazards associated to incipient stage fires.
7. Describe when not to fight a fire.

3

Regulation and Procedures

- OSHA – 29 CFR 1910.157
  - Educational program, familiarization
- Procedures
  - WP 12FP.01, WIPP Fire Protection Progam
  - Are expected to, but not obligated to respond to incipient stage fires.

4

Define the Purpose of a Fire Extinguisher

- **To control or extinguish small or incipient stage fires.**

5

Incipient Stage Fires

- OSHA – means a fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers … without the need for protective clothing or breathing apparatus.
- NFPA – a fire that is in the initial or beginning stage and that can be controlled or extinguished by portable extinguishers or small amounts of dry extinguishing agents, without the need for protective clothing or breathing apparatus.

6

Fire Classifications and Types

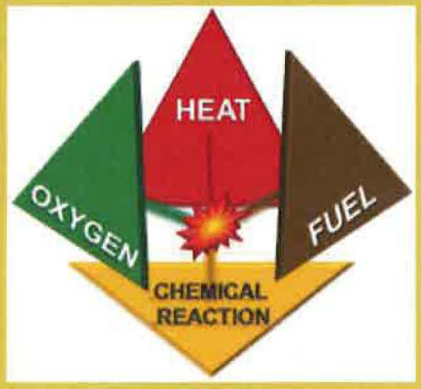
Elements of a fire

Heat

Fuel

Oxygen

Resulting in a chemical chain reaction



7

Categories of Fires

- Class "A" fires
- Ordinary combustibles
  - Wood, paper, plastics

8

Categories of Fires

- Class "B" fires
- Flammable liquids
  - Grease, paints, gasoline
- Flammable gases
  - Propane, hydrogen

9

Categories of Fires

- Class "C" fires
- Energized Electrical Equipment

10

Categories of Fires

- Class "D" fires
- Combustible metals

11

Categories of Fires

- Class "K" fires
- Combustible cooking media
- Vegetable and animal oils/fats

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Types of Fire Extinguishers

- Extinguishers should be matched appropriately to the work environment.
- 6 classes of fire extinguishers
  - A ordinary combustibles
  - AB ordinary combustibles and flammable liquids
  - BC flammable liquids and electrical
  - ABC multipurpose
  - D combustible metals
  - K kitchen fires

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Operation of a Fire Extinguisher

- Check the pressure in the fire extinguisher
  - The needle on the pressure gauge should be in the green area
- Pass system
  - Pull the pin, test the extinguisher
  - Aim at the base of the flames
  - Squeeze the handle
  - Sweep from side to side

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Hazards

- YOUR SAFETY is NUMBER 1
  - Survey your surroundings
  - Is the fire to large for me to extinguish (your decision)
  - Smoke
  - Heat
  - Fire extinguisher location
  - Proper extinguisher
  - Can I operate the extinguisher
  - Any doubts

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Before Attempting to Fight a Fire

- Notify CMR 8111
- Provide the following information
  - Name
  - Location of the fire
  - Size
  - Anyone trapped or injured

16

After Discharging the Extinguisher

- Evacuate immediately
- Call the CMR from a safe location and give them an update

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When Not to Attempt Extinguishment

- You feel the fire is to large
- Smoke
- No clear escape path.

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Enabling Objectives

1. Review applicable regulations and procedures.
2. Define the purpose of a fire extinguisher
3. State the difference fire classifications and characteristics.
4. State different types of fire extinguishers and identification
5. Demonstrate how to operate a fire extinguisher
6. State the hazards associated to incipient stage fires
7. Describe when not to fight a fire

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
I. Introduction A. Introduce self 1. State name and title 2. Handout attendance sheet B. Lesson length 1. 4 Hours C. Lesson format 1. Classroom 2. Field exercise (JPM) a) Demonstration b) Self-critique c) Group-critique D. Course prerequisites: 1. None E. Refresher training 1. SAF-502FR – completion of computer based training and the practical for those persons requiring unescorted access to the underground F. Terminal Objective: Upon completion of this course, the student will have the necessary knowledge and skills to use a portable fire extinguisher.	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
Mastery of the terminal objective will be demonstrated by scoring 80% or higher on the written exam, performing satisfactorily on the Job Performance Measure. G. Enabling Objectives: 1. Review applicable regulations and procedures 2. Define the purpose of a Fire Extinguisher 3. State different fire classifications and characteristics 4. State different types of fire extinguishers and identification 5. Demonstrate how to operate a fire extinguisher 6. State the hazards associated to incipient stage fires 7. Describe when not to fight a fire II. Presentation A. Regulations and procedures 1. OSHA 29 CFR 1910.157 a) Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage firefighting. 2. WP 12 FP.01 a) Workers in DOE nuclear facilities are expected to, <u>BUT NOT</u>	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
OBLIGATED TO, evaluate and respond to incipient fires with portable fire extinguishers, if safe to do so. The control of combustible loading is the first line of defense to fire damage, and limiting the amount of combustibles limits the size of a fire, and also minimizes the danger to workers. Control of combustibles is everyone's JOB. B. Define the purpose of a fire extinguisher 1. To control or extinguish small or incipient stage fires and, 2. Incipient stage fire a) OSHA – means a fire which is in the initial or beginning stage and which can be controlled or extinguished by portable fire extinguishers, Class II standpipe or small hose systems without the need for protective clothing or breathing apparatus. b) NFPA – a fire that is in the initial or beginning stage and that can be controlled or extinguished by portable extinguishers or small amounts of dry extinguishing agents, without the need for protective clothing or breathing apparatus. C. State different fire classifications and types 1. Elements of a fire a) Heat – without sufficient heat, a fire cannot begin, and cannot continue. (1) Sources; open flames, the sun, hot surfaces, sparks and arcs,	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
friction, chemical action, electrical energy. b) Fuel – without fuel, a fire will stop. (1) Gases – (2) Liquids – (3) Solids – c) Oxygen – without sufficient oxygen, a fire cannot begin, and it cannot continue. (1) 16% required, some fuels contain oxygen within their makeup to support burning. 2. When we have all the right mix of heat, fuel and oxygen we have a chemical reaction which completes the fire tetrahedron 3. Categories of fires a) Class A: ordinary combustibles, wood, cloth, paper, rubber, coal, hay and plastics b) Class B: Flammable liquids, grease, paints, propane, oils, gasoline, alcohol, lacquer, varnish; Flammable gases, natural gas, propane, hydrogen, acetylene c) Class C: Energized electrical components d) Class D: Combustible metals, magnesium, titanium, zirconium e) Class K: Combustible cooking media, vegetable or animal oils/fats	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
D. State different types of Fire extinguishers 1. Fire extinguishers should be appropriately matched to the work environment 2. Use of pictograms for quick identification for the type of extinguisher 3. 6 Types of Fire Extinguishers, Classes a) A – ordinary combustible materials (1) Extinguishing agent water, dry chemical, CO2, foam b) AB – ordinary combustibles and flammable liquids (1) Extinguishing agent Dry chemical or foam c) BC – flammable liquids and electrical (1) Extinguishing agent dry chemical, sodium bicarbonate or potassium bicarbonate. d) ABC – multipurpose (1) Extinguishing agent Dry chemical, monoammonium phosphate e) D – combustible metals (1) Extinguishing agent dry powder extinguishing agents because they absorb heat and smother the flames, cutting off oxygen. f) K – Kitchen fire (1) Extinguishing agent wet chemical extinguishing agent which turns the cooking oil and fat that is serving as fuel to soap. E. Demonstrate the Operation of a fire Extinguisher	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
1. If the extinguisher has a pressure gauge, check to make sure the pressure indicating needle is in the green before proceeding 2. PASS system a) P – pull the pin (1) Test the extinguisher to make sure it operates (squeeze to make a small burst from the extinguisher), also to see how far the extinguisher will discharge the agent, this let you know how close you need to get to put agent on the fire. b) A – aim at the base of the flames c) S – squeeze the handle (1) The handle should be completely open d) S – sweep back and forth to cover the outside edges of the flames (1) do this quickly, covering all the burning material as quickly as possible F. State the hazards associated to incipient fires 1. Your safety is number 1 a) Look at your surroundings where the fire is located and ask? (1) Do I have a clear escape way from the fire location (2) Do I feel the fire is too large (3) If there is too much smoke, is the air safe to breath, does the smoke	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
obscure my vision (4) Is the heat from the fire too much for me to handle (5) Is there a fire extinguisher located in a safe proximity to the fire (6) Is the fire extinguisher the proper class for the type of fire (7) Can I operate this extinguisher b) If you have any doubts about your ability to fight a fire then evacuate the area immediately 2. Before attempting to fight a fire we should a) Make a notification to the CMR at 8111 and give them information (1) Name (2) Location of the fire, our location if different (3) How big is the fire (4) If anyone is injured or trapped b) After we have discharged an extinguisher (1) Evacuate immediately if we empty an extinguisher and the fire is not out, or if the fire has grown beyond the incipient stage (2) Call the CMR from a safe location and update them G. Describe when not to fight a fire, Your safety is number 1 1. The fire is too large 2. The air is not safe to breath, too much smoke	

Lesson Outline (What Instructor will teach)	**Training aids, Questions and Objectives** (How instructor will teach)
3. No clear escape way III. Enabling Objectives A. Review applicable regulations and procedures B. Define the purpose of a Fire Extinguisher C. Fire classifications and characteristics D. Fire extinguisher types and identification E. How to operate a fire extinguisher F. Hazards associated to incipient stage fires G. When not to fight a fire IV. Questions V. Exam	

Job Performance Measure

Name: _____ Badge # _____ Date: _____

All Items have to be Satisfactorily performed to complete the JPM.

TASK	Eval. Method	Sat/Unsat	Re-perform Sat/Unsat
Contact the CMR and provide a fire report 1. Name 2. Location of Fire 3. How Big the Fire is 4. If Anyone is Trapped or Injured	S		
Check Pressure of Fire Extinguisher	P		
Pull the Pin and Test Fire Extinguisher	P		
Aim at the Base of the Flames	P		
Squeeze the Handle	P		
Sweep from Side to Side	P		
Backs Away facing the Fire	P		

P = Perform S = Simulate

Comments:

Evaluator: _____ Date: _____

I have reviewed the Unsatisfactory items with the evaluator.

Student: _____ Date: _____