

# ***JOINT TASK FORCE – RED HILL***

## ***JTF-Red Hill***

### ***Defueling Fire Protection***



**14 April 2023**

**This brief is classified:**

Markings Removed

**Discussion up to:**

Markings Removed

***Classified by:*** JTF Red Hill Planning Directorate

***Derived from:*** Multiple Sources

***Declassify on:***



# (U)Dry Chemical + Water

## Description

- Dry Chemical Extinguishers
  - Provide 20x 125 LB dry chemical fire extinguishers near each set of fuel tanks, the Oil Tight Door, and Door C
  - Additional FF trained personnel to be alert to fire and to use fire extinguishers
  - Water-only sprinkler system in Auto Mode as backup

## Additional Risk Reduction Measures

- Eliminate Combustible Materials
- Reduce Ignition sources
- Provide Pipe Wrapping around Fuel Line Flange Joints
- Coordinate with FFD to establish "Safe Zone A"
- Train Personnel to use self-contained breathing apparatus (SCBA)
- Personnel carry Supplemental Emergency Egress Device (SEED)

## Cost/Schedule

- \$~100K for 20x 125lb Chemical Extinguishers
- Procurement complete by March 2023

## Pros

- Fastest to field
- Proven Effective Method
- Federal Fire Department Response Plan Supports

## Cons

- Risk to Personnel on Fire Fighting Duty
- Not UFC Compliant, requires DOD Waiver

Note: Fully contracted repairs for AFFF System availability in Manual Mode to be complete by May 2023

## Risk

RISK	LH	SEV	Total
AFFF inadvertent release	Rare (1)	Insignificant (1)	<b>1</b> Very Low
Ineffective fire fighting	Rare (1)	Severe (5)	<b>5</b> Medium
Risk to personnel	Possible (3)	Severe (5)	<b>15</b> Very High
Environmental impact – Release/Activation	Rare (1)	Insignificant (1)	<b>1</b> Very Low
Impact Defuel Timeline	Rare (1)	Severe (5)	<b>5</b> Medium

LH = Likelihood      SEV = Severity



# (U) Dry-Chem Configuration

(b) (3) (A)



### Dry Chemical Specifications

- 20 – 125lbs wheeled dry chemical stored fire extinguishers (~\$100K)
- 50ft hose with 30-40ft application reach for 53 seconds
- Wheeled large-capacity class B & C extinguisher
- Uses a sodium bicarbonate-based agent
- For facility use with extra-high risk of large-scale class B (flammable liquid/gas) and C (electrical) fires
- Heavy-duty steel cylinder fixed to a steel trolley
- Easy-rolling semi-pneumatic rubber tire wheels for single-person transport

### Personnel

- Shift Chief (E-7)= 1 Pax
- Asst Shift Chief (E6)= 1 Pax
- 8 Fire Teams of 2 Pax (E1-E5) = 16 Pax
- Rovers (E1-E5)= 4 Pax
- **Total Per Shift = 22 Pax**
- **Three Shifts a Day = 66 Pax**
- Fire Detail OIC (O-2-O-3)= 1 Pax
- Fire Detail Chief (E-8)= 1 Pax
- **Total Requirement = 68 Pax**
- **24/7 for 3 days (2 down days)**

### Logistics/Sustainment

CLI: M-A-A (Meal card holders will be provided lunch and dinner via the Hickam DFAC.  
 CL IV / VII: Provided by JTF-RH J-4

### Transportation

2x 12 PAX vans & 2x sedans required.

### Communication

P: LMR (Channel 13 Zone A)  
 A: Land Line  
 C:  
 E: Runner  
 \*Requires 12 LMR radios and two chargers

**68 Additional Pax to Support Dry-Chem Configuration**

**(U)NAVFAC Fire Engineer Analysis (15 +1 OTD)**

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**(b) (3) (A)**



# (U) Fire Watch Training Certification

Training Components	Certifying Organization	Reference	Justification	Training Duration	Setting
Site Specific <b>Collective Training Component</b> - Elements of Damage Control - Fire Prevention & Response - Evacuation Plans/Low vis Egress - Immediate Response Training	JBPHH	- OPNAVINST 11320.27A (2019) - NFPA 1081 (2018) - NSTM 079, VOL 2 (2008)	- Provides authority for Navy-wide EMS services; defines advanced and basic life support, response, and care - Provides codes, standards, and recommended practices and guides regarding requisite knowledge for a facility fire brigade member - Technical manual for Damage Control to fuel systems	3 Days	RH Tunnel
Onboarding & Indoc - <b>Individual Training Component</b>	JTF-RH	- JTF-RH	- Command Policy	2 Days	Classroom
Fire & Emergency Medical Services <b>Individual Training Component</b> - CPR - First Aid - Defibrillator	Fed Fire	- OPNAVINST 11320.23G (2013) - NFPA 1851 (2020) - OPNAVINST 11320.27A (2019) - OPNAVINST 5100.29A	- Establishes CNIC with exercise authority for Navy F&ES program - Provides standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting - Provides Navy-wide EMS services policy and assigns responsibilities for pre-hospital emergency medical care at Navy installations - Provides standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting	1 Day	Classroom
PPE/Emergency Response <b>Individual Training Component</b> - EEBD Training - Risk Assessment	JTF-RH QA Directorate	- NSTM 077 (PPE Instruction) - NFPA 1851 (2020)	- Technical manual for personnel protective equipment to include life preservers - Provides standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting	4 Hours	Classroom
Shipboard Fire Fighting <b>Individual Training Component</b> - SCBA - Fire Safety Equipment Training - Requires external support	Surface Warfare Schools Command	- Navy Ships Technical Manual (NSTM) 555 (2010) - NFPA 1851 (2020) - OPNAVINST 11320.23G (2013)	- Self-Contained Breathing Apparatus Training - Provides standard on Selection, Care, and Maintenance of Protective Ensembles for Structural Fire Fighting and Proximity Fire Fighting - Establishes CNIC with exercise authority for Navy F&ES program	3 Days	Classroom and Field Training
Fire Extinguisher <b>Individual Training Component</b> - Training During determined by manufacturer Instruction	Fed Fire	- NFPA 10, Chapter 5, 2022 Edition (Portable Fire Extinguishers)	- Provides location and accessibility of portable fire extinguishers	4 Hours	Field Training



# (U) Event Analysis

**Probability:**  
1 in 6,858,711

**Most Probable  
Worst Case Discharge**

**Causes**  
Vacuum  
Over Pressure  
Joint Failure  
Valve Failure  
Pipe Failure  
Operator error

**Mitigations**  
PITs  
Pipe Repairs  
Tank Equalization Lines  
Updated OPS Plan  
Zone Watch Standers  
Gravity Drain/No Pumps



**Ignition Source**

**Causes**  
Pooling Fuel  
Spray/Jet Leak  
Combustible Material  
Electrical Systems  
Fans  
Reaction Delay

**Mitigations**  
Joint Wrapping  
Eliminate Combustibles  
Water Suppression  
Dry Chemical  
Extinguishers  
Stage FED Fire



**Probability:**  
1 in 856,164,384

**Fire Event**

**Likely**  
Fire: Burns for Weeks to Months  
Pipe Burst: Pressure failure at weakest point

**Possible**  
Oil Tight Door Failure: Fuel reaches Adits 2 & 3

**Unlikely**  
Tank Off-Gas: Combustible Cloud into adjacent area (Housing)

**Rare**  
Tank Explosion:  
Vent = No Potential





# (U) Event Probability

## Probability of a catastrophic fire

- Probability is very low → 1 in 856,164,384
- Builds upon the Fuel Leak Probability Calculations

## Probability of a Catastrophic fire= 1 in 856,164,384

