Red Hill Pipeline Unpacking

Overall Classification of this Briefing is [redacted]

[redacted]

Overview of Pipeline Unpacking

- **Three product lines to unpack for repair work**
  - F-24 (162,069 Gallons)
  - JP-5 (216,480 Gallons)
  - F-76 (691,128 Gallons)

- **Four phases per product line/type**

  Preparatory
  - Phase I: Pre-Operation
  - Phase II: Valve Maintenance/Op Check/Pressure Equalization

  Fuel Movement
  - Phase III: Gravity Drain Down
  - Phase IV: Low Point Drain Transfer

- **All Phase III Gravity Drain Down Fuel Movements will be conducted first**
  - Day 1: F-24
  - Day 2: JP-5
  - Day 3: F-76
  - Day 4: F-76

- **Then all Phase IV Low Point Drain Transfers will be conducted to conclude unpacking**
  - Day 5: F-24 and JP-5
  - Day 6: F-76

F-24 Pipeline Unpacking Red Hill Concept of Operation (Date: TBD)

Operations Summary

Preparatory
- **Phase I: Pre-Operation**
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**

Fuel Movement (Total ~162,069 Gallons)
- **Phase III: Gravity Drain Down (~144,362 Gallons)**
- **Phase IV: Low Point Drain Transfer (~17,707 Gallons)**

Preparatory

- **Phase I: Pre-Operation**
  - **Planning:** Data Gathering, Maint. Order, Op Order, HAZOP Analysis
  - **Configuring:** LOTO RH Tanks (b)(3)(B) Valves – Listed in Baseline
  - **Training:** To Maint. Order, Op Order, and Emergency Response
  - **Evolution Walkthrough:** All Scheduled Watch-Standers
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**
  - **Maintenance and Op Check:** Grease and cycle (4) valves
  - **Line Pressure Verification:** Equalize pipeline to atmospheric pressure
  - **Confirm Valve Alignment as identified in OPORD**

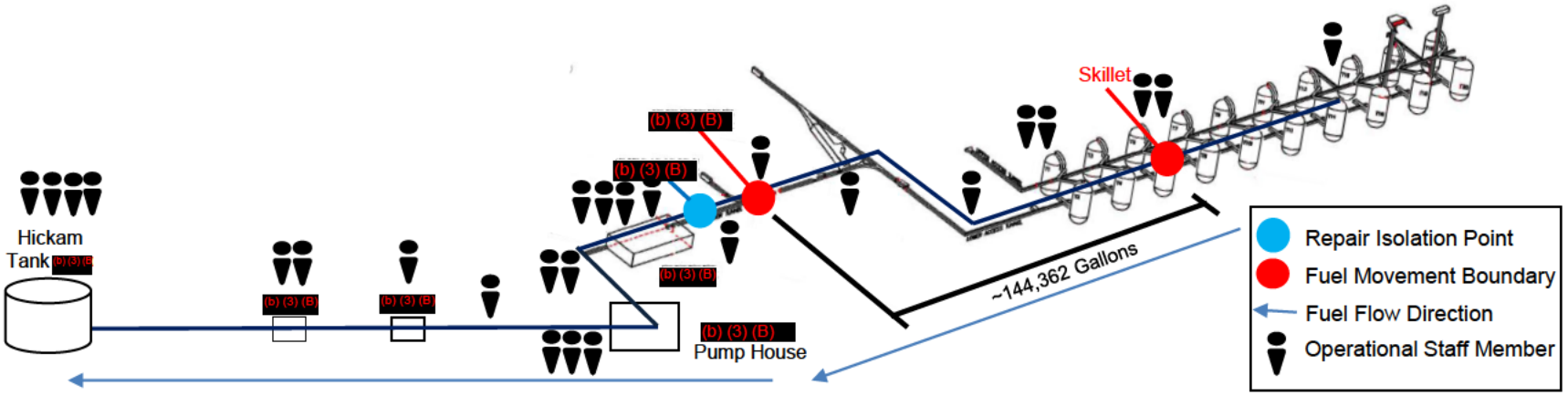
Fuel Movement

- **Phase III: Gravity Drain Down (~144,362 Gallons)**
  - **Evolution:** Gravity Drain F-24 line empty from Tank (b)(3)(B) Skillet to (b) (3) (B)
  - **Transferring Location:** To Hickam Tank (b)(3)(B)
  - **Tank (b)(3)(B) Ullage:** 300,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II
    - Pressure confirmed day of via Op Order
    - Open HPV on Tank (b)(3)(B) Lateral to maintain ambient pressure
    - After 10K unpacked, remove flange on TK (b)(3)(B) Lateral
  - **Gravity Flow Fuel:** Max. 100,000 gal/hr flow rate ~2 hrs.
  - **Transfer Assist Pump:** (b) (3) (B) located in (b) (3) (B)
  - **Return Valves to Baseline:** In sequence from Hickam to (b) (3) (B)
  - **Return HPV Valves to Baseline**

Phase III Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Hickam Pump House Operator (1)
- Work Supervisor (2)
- Work Lead (2)
- Independent Validators (5)
- Rovers (13)

Phase III: Gravity Drain Down



F-24 Pipeline Unpacking Red Hill Concept of Operation (Date: TBD)

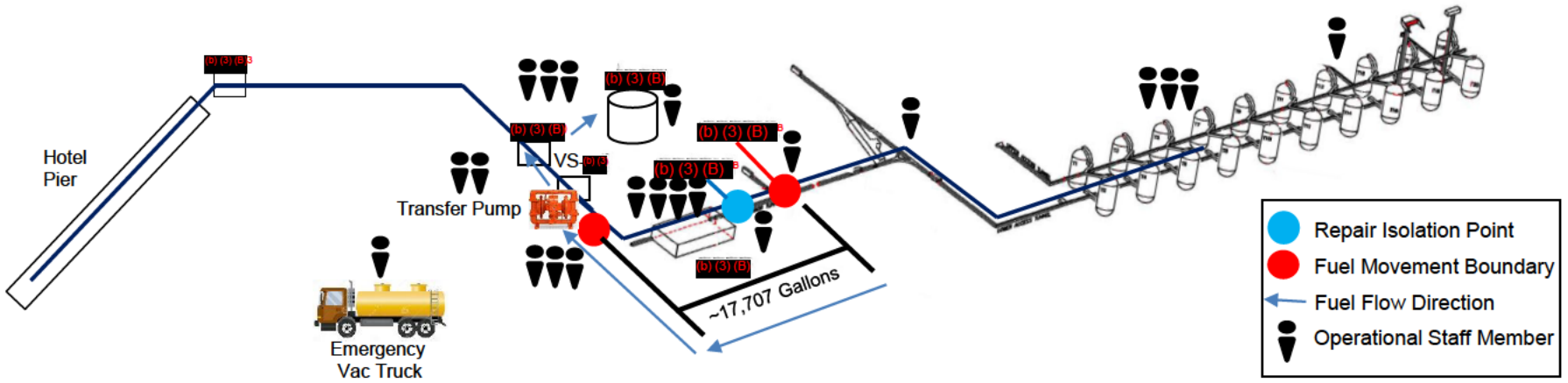
Fuel Movement

- **Phase IV: Low Point Drain Transfer (~17,707 Gallons)**
  - **Evolution:** Pump F-24 line empty from (b) (3) (B)
  - **Transferring Location:**
    - **1) From LPD at (b) (3) (B) to Transfer Pump**
    - **2) From Transfer Pump to (b) (3) (B)**
    - **3) From (b) (3) (B) to Tank (b) (3) (B)**
  - **Tank (b) (3) (B) Ullage:** 60,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II and III
    - Pressure confirmed day of via Op Order
    - Open HPV on Tank (b) Lateral to maintain ambient pressure
  - **Transfer Pump:** Maximum 15,000 gal/hr flow rate
  - **Transfer Time:** ½ day
  - **Return Valves to Baseline:** In sequence from (b) (3) (B) to (b) (3) (B)
  - **Return HPVs Valves to Baseline**

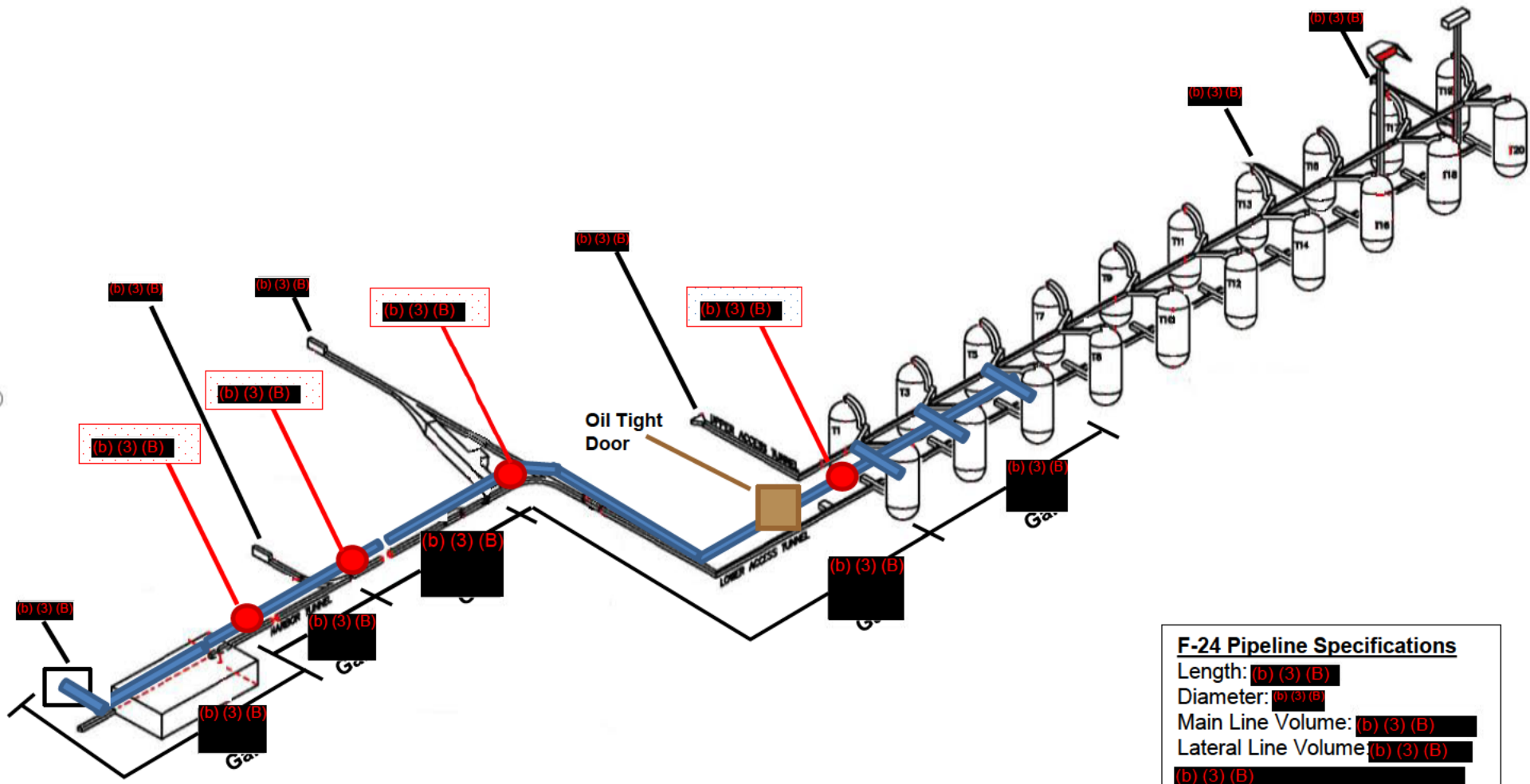
Phase IV Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Work Supervisor (1)
- Work Leader (2)
- Pump Operator (1)
- Asst. Pump Operator (1)
- Rovers (9)
- Independent Validators (3)
- Vacuum Truck Operator (1)

Phase IV: Low Point Drain Transfer



F-24 Pipeline and Sectional Valve Volumes and Locations



F-24 Pipeline Specifications

Length: (b) (3) (B)

Diameter: (b) (3) (B)

Main Line Volume: (b) (3) (B)

Lateral Line Volume: (b) (3) (B)

(b) (3) (B)

Total Volume: 162,069 Gal.

JP-5 Pipeline Unpacking Red Hill Concept of Operation (Date: TBD)

Operations Summary

Preparatory
- **Phase I: Pre-Operation**
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**

Fuel Movement (Total ~216,480 Gallons)
- **Phase III: Gravity Drain Down (~194,156 Gallons)**
- **Phase IV: Low Point Drain Transfer (~22,324 Gallons)**

Preparatory

- **Phase I: Pre-Operation**
  - **Planning:** Data Gathering, Maint. Order, OPORD, HAZOP Analysis
  - **Configuring:** LOTO RH Tanks (b) (3) (B) Valves – Listed in Baseline
  - **Training:** To Maint. Order, OPORD, and Emergency Response
  - **Evolution Walkthrough:** All Scheduled Watch-Standers
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**
  - **Maintenance and Op Check:** Grease and cycle (5) valves
  - **Line Pressure Verification:** Equalize pipeline to atmospheric pressure by opening HPV at Tank (b) (3) (B) skillet
  - **Confirm Valve Alignment as identified in OPORD**

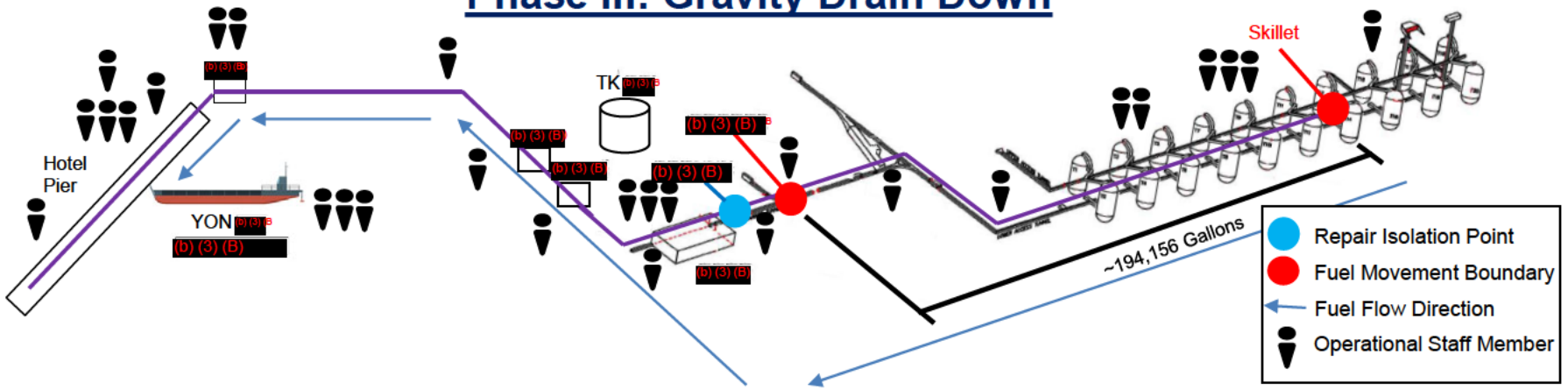
Fuel Movement

- **Phase III: Gravity Drain Down (~194,156 Gallons)**
  - **Evolution:** Gravity Drain JP-5 line empty from Tank (b) (3) (B) Skillet to (b) (3) (B)
  - **Transferring Location:** To YON (b) (3) (B) at Hotel Pier
  - **YON (b) (3) (B) Ullage:** 250,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II
    - Pressure confirmed day of via OPORD
    - Open HPV at Tank (b) (3) (B) Skillet to maintain ambient pressure
  - **Gravity Flow Fuel:** Maximum 100,000 gal/hr flow rate ~3 hrs
  - **Return Valves to Baseline:** In sequence from Hotel Pier to (b) (3) (B)
  - **Return HPV Valves to Baseline**

Phase III Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Work Supervisor (2)
- Work Lead (1)
- Pier PIC (1)
- Asst. Pier PIC (1)
- YON PIC (1)
- Asst. YON PIC (1)
- YON Asst. (1)
- Vac Truck Operator (1)
- Independent Validators (2)
- Rovers (14)

Phase III: Gravity Drain Down



JP-5 Pipeline Unpacking Red Hill
Concept of Operation (Date: TBD)

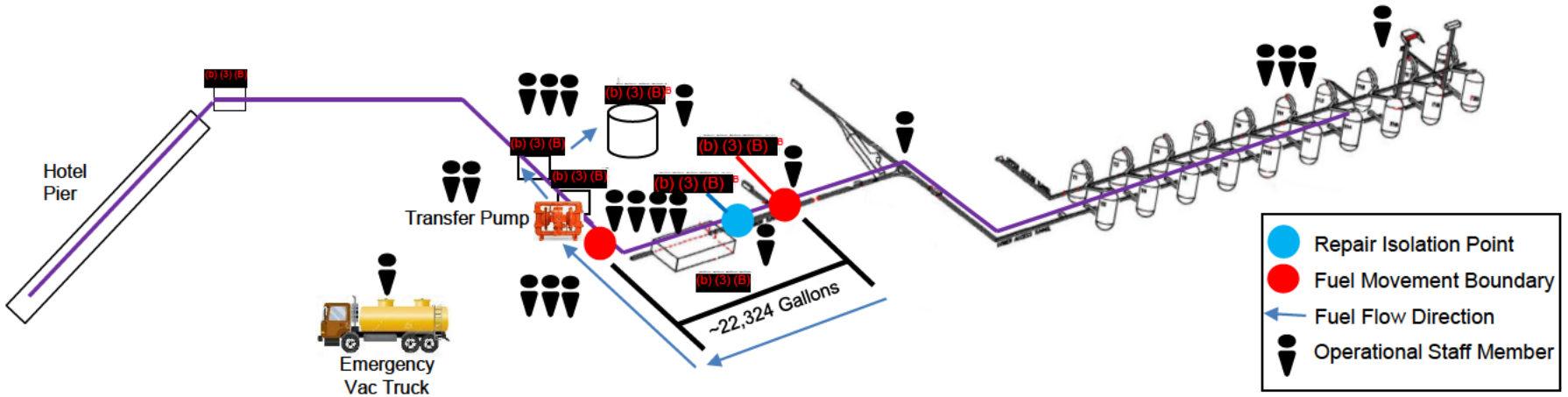
Fuel Movement

- **Phase IV: Low Point Drain Transfer (~22,324 Gallons)**
  - **Evolution:** Pump JP-5 line empty from (b) (3) (B) to (b) (3) (B)
  - **Transferring Location:**
    - **1) From LPD at (b) (3) (B) to Transfer Pump**
    - **2) From Transfer Pump to (b) (3) (B)**
    - **3) From (b) (3) (B) to Tank (b) (3) (B)**
  - **Tank (b) (3) (B) Ullage:** 60,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II and III
    - Pressure confirmed day of via OPORD
    - Open HPV at Tank (b) (3) (B) Skillet to maintain ambient pressure
  - **Transfer Pump:** Maximum 15,000 gal/hr flow rate
  - **Transfer Time:** ½ day
  - **Return Valves to Baseline:** In sequence from Tank (b) (3) (B) to (b) (3) (B)
  - **Return HPVs Valves to Baseline**

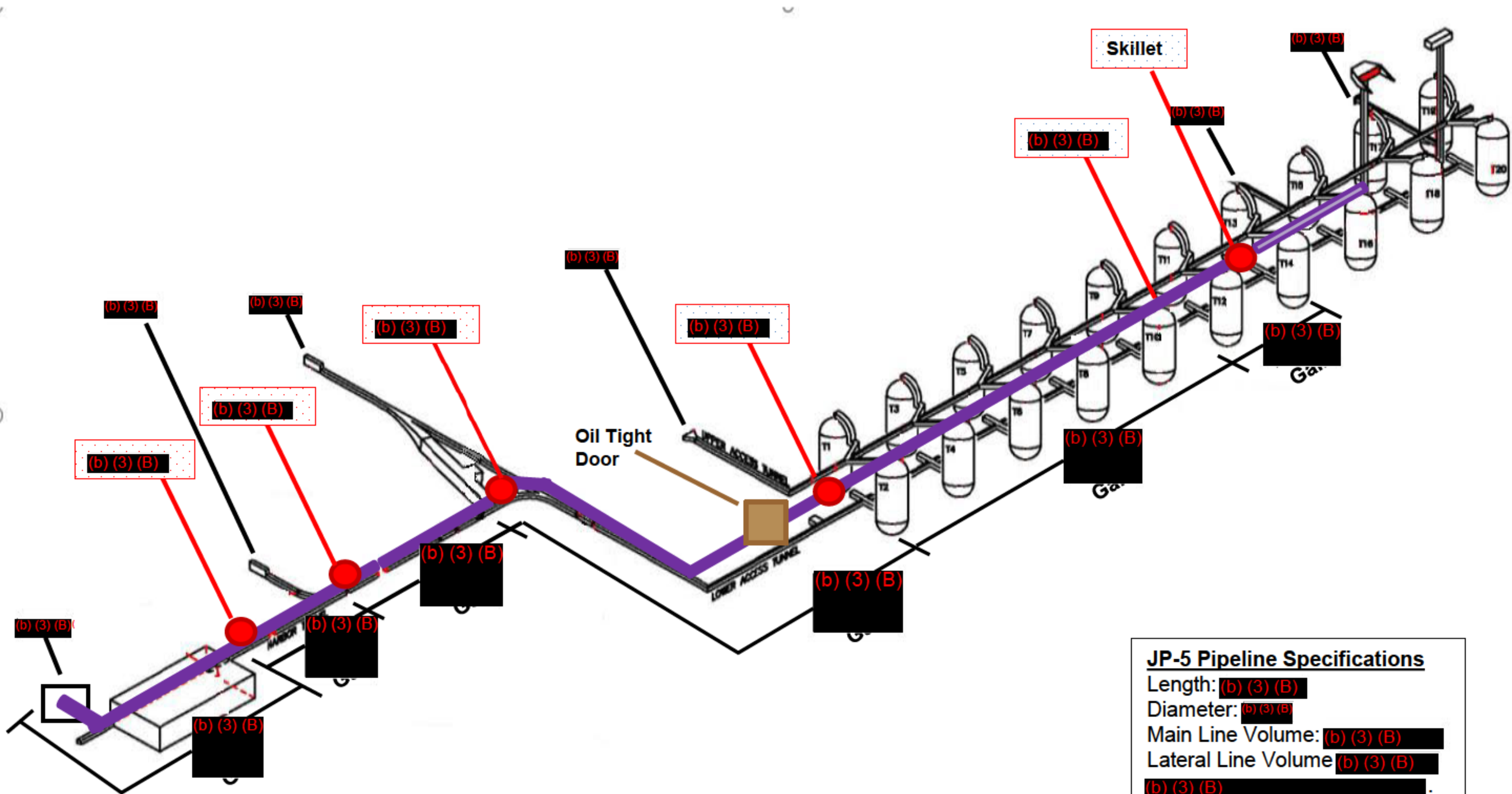
Phase IV Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Work Supervisor (1)
- Work Leader (2)
- Pump Operator (1)
- Asst. Pump Operator (1)
- Rovers (9)
- Independent Validators (3)
- Vacuum Truck Operator (1)

Phase IV: Low Point Drain Transfer



JP-5 Pipeline and Sectional Valve Volumes and Locations



JP-5 Pipeline Specifications

Length: (b) (3) (B) [redacted]
Diameter: (b) (3) (B) [redacted]
Main Line Volume: (b) (3) (B) [redacted]
Lateral Line Volume (b) (3) (B) [redacted]
(b) (3) (B) [redacted].
Total Volume: 216,480 Gal.

F-76 Pipeline Unpacking Red Hill Concept of Operation (Date: TBD)

Operations Summary

Preparatory
- **Phase I: Pre-Operation**
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**

Fuel Movement (Total ~691,128 Gallons)
- **Phase III: Gravity Drain Down (~622,979 Gallons)**
- **Phase IV: Low Point Drain Transfer (~68,149 Gallons)**

Preparatory

- **Phase I: Pre-Operation**
  - **Planning:** Data Gathering, Maint. Order, OPORD, HAZOP Analysis
  - **Configuring:** LOTO RH Tanks (b) (3) (B) Valves – Listed in Baseline
  - **Training:** To Maint. Order, OPORD, and Emergency Response
  - **Evolution Walkthrough:** All Scheduled Watch-Standers
- **Phase II: Valve Maintenance/Op Check/Pressure Equalization**
  - **Maintenance and Op Check:** Grease and cycle valves
  - **Line Pressure Verification:** Equalize pipeline to atmospheric pressure by opening HPV at Line End
  - **Confirm Valve Alignment as identified in OPORD**

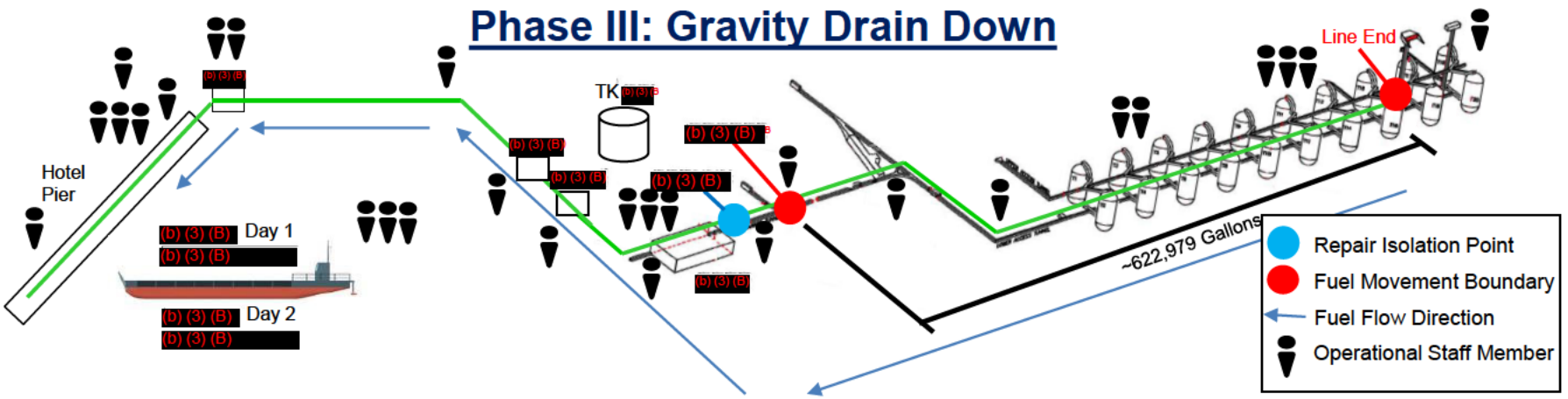
Fuel Movement

- **Phase III: Gravity Drain Down (~622,979 Gallons)**
  - **Evolution:** Gravity Drain F-76 line empty from Line End to (b) (3) (B)
  - **Transferring YON Day 1:** To YON (b) (3) (B) at Hotel Pier (~250,000 Gallons)
  - **Transferring YON Day 2:** To YON (b) (3) (B) at Hotel Pier (~372,979 Gallons)
  - **YON (b) (3) (B) Ullage:** 500,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II
    - Pressure confirmed day of via OPORD
    - Open HPV at Line End to maintain ambient pressure
  - **Gravity Flow Fuel:** Maximum 100,000 gal/hr flow rate ~2 days
  - **Return Valves to Baseline:** In sequence from Hotel Pier to (b) (3) (B)
  - **Return HPV Valves to Baseline**

Phase III Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Work Supervisor (2)
- Work Lead (1)
- Pier PIC (1)
- Asst. Pier PIC (1)
- YON PIC (1)
- Asst. YON PIC (1)
- YON Asst. (1)
- Vac Truck Operator (1)
- Independent Validators (2)
- Rovers (14)

Phase III: Gravity Drain Down



F-76 Pipeline Unpacking Red Hill
Concept of Operation (Date: TBD)

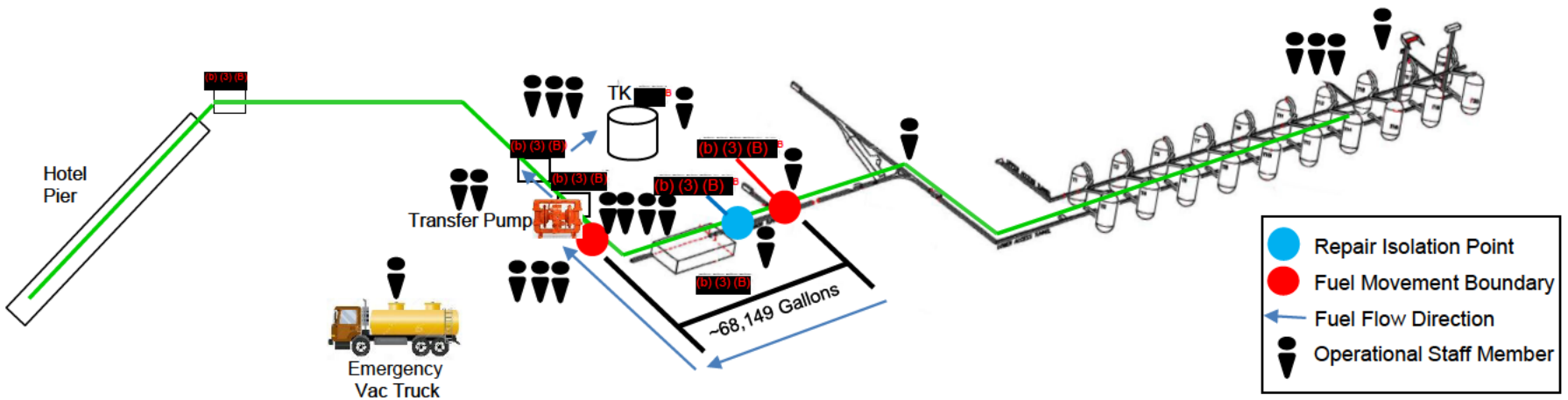
Fuel Movement

- **Phase IV: Low Point Drain Transfer (~68,149 Gallons)**
  - **Evolution:** Gravity Drain F-76 line empty from (b) (3) (B) to (b) (3) (B)
  - **Transferring Location:**
    - **1) From LPD at (b) (3) (B) to Transfer Pump**
    - **2) From Transfer Pump to (b) (3) (B)**
    - **3) From (b) (3) (B) Tank (b) (3) (B)**
  - **Tank (b) (3) (B) Ullage:** 100,000 Gallons
  - **Line Pressure Verification:** Pressure Equalization during Phase II and III
    - Pressure confirmed day of via OPORD
    - Open HPV at Line End to maintain ambient pressure
  - **Transfer Pump:** Maximum 15,000 gal/hr flow rate
  - **Transfer Time:** (b) day
  - **Return Valves to Baseline:** In sequence from Tank (b) (3) (B) to (b) (3) (B)
  - **Return HPVs Valves to Baseline**

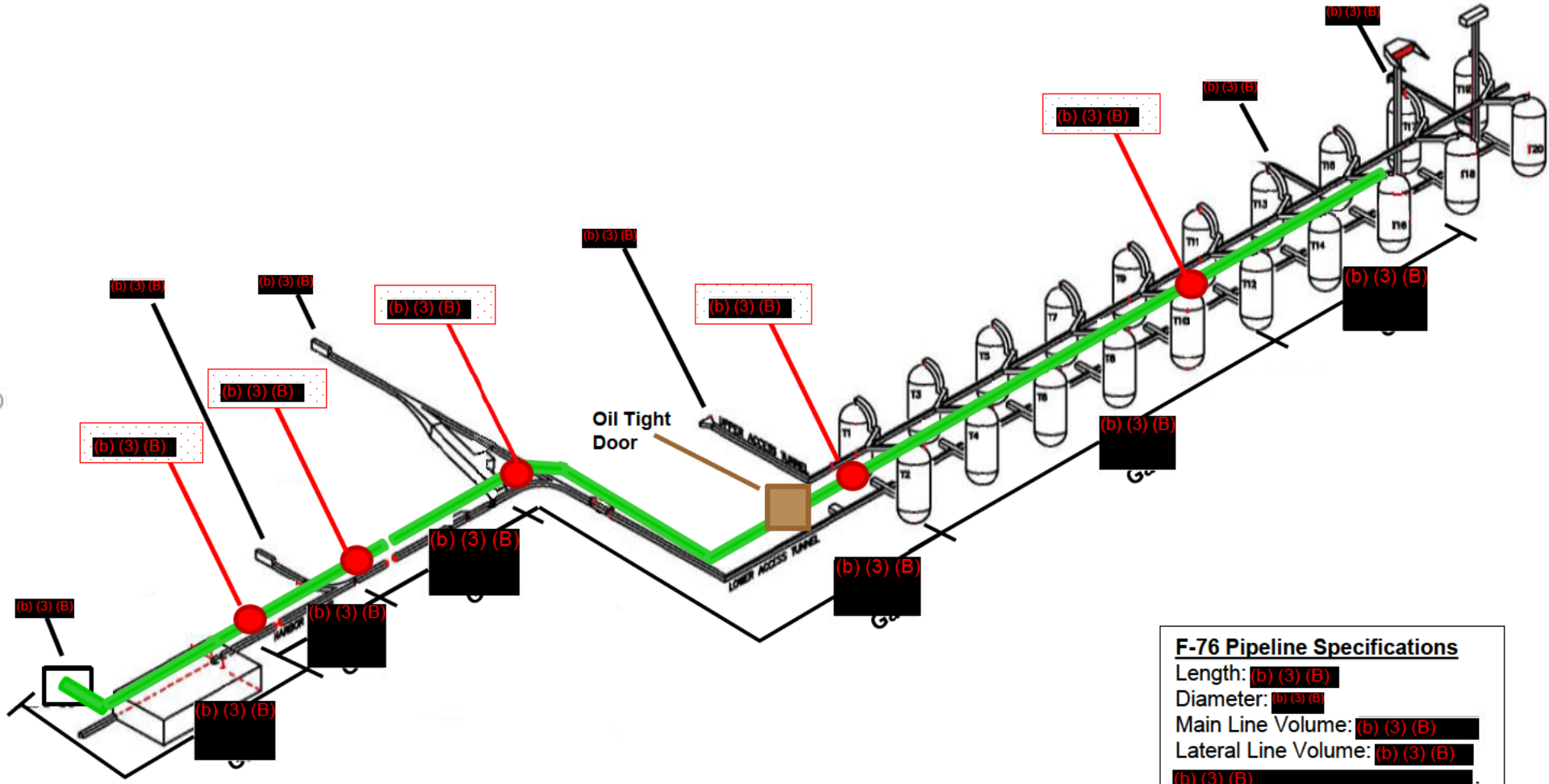
Phase IV Operational Staffing

- Supervisor of the Watch (1)
- Control Room Operator (1)
- Asst. Control Room Operator (1)
- Work Supervisor (1)
- Work Leader (2)
- Pump Operator (1)
- Asst. Pump Operator (1)
- Rovers (9)
- Independent Validators (3)
- Vacuum Truck Operator (1)

Phase IV: Low Point Drain Transfer



F-76 Pipeline and Sectional Valve Volumes and Locations



F-76 Pipeline Specifications

Length: (b) (3) (B)

Diameter: (b) (3) (B)

Main Line Volume: (b) (3) (B)

Lateral Line Volume: (b) (3) (B)

(b) (3) (B)

Total Volume: 691,128 Gal.

Aerial View of Low Point Drain Transfer Footprint