Red Hill Pipeline Unpacking

Overall Classification of this Briefing is
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 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
- Phase III: Gravity Drain Down (~144,362 Gallons)
- Phase IV: Low Point Drain Transfer (~17,707 Gallons)

Fuel Movement
- Phase III: Gravity Drain Down (~144,362 Gallons)
  - Evolution: Gravity Drain F-24 line empty from Tank 33 Skillet to
  - Transferring Location: To Hickam Tank 3
  - Tank 3 Ullage: 300,000 Gallons
  - Line Pressure Verification: Pressure Equalization during Phase II
    - Pressure confirmed day of via Op Order
    - Open HPV on Tank 3 Lateral to maintain ambient pressure
    - After 10K unpacked, remove flange on TK 3 Lateral
  - Gravity Flow Fuel: Max. 100,000 gal/hr flow rate ~2 hrs.
  - Transfer Assist Pump: (b) (3) (6) located in (b) (3) (6)
  - Return Valves to Baseline: In sequence from Hickam to (b) (3) (6)
  - Return HPV Valves to Baseline

Preparatory
- Phase I: Pre-Operation
  - Planning: Data Gathering, Maint. Order, Op Order, HAZOP Analysis
  - Configuring: LOTO RH Tanks & 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

Phase III: Gravity Drain Down

- 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)
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 [BLK]
  - Transferring Location:
    - 1) From LPD at [BLK] to Transfer Pump
    - 2) From Transfer Pump to [BLK]
    - 3) From [BLK] to Tank [BLK]
  - Tank 4 Uplage: 60,000 Gallons
  - Line Pressure Verification: Pressure Equalization during Phase II and III
    - Pressure confirmed day of via Op Order
    - Open HPV on Tank [BLK] 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 [BLK] to [BLK]
  - 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

[Diagram showing the flow of fuel and operational staff positions]
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)

Phase I: Pre-Operation
- Planning: Data Gathering, Maint. Order, OPORD, HAZOP Analysis
- Configuring: LOTO RH Tanks 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 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 Skillet to
  - Transferring Location: To YON Pier at Hotel Pier
  - YON Pier Uillage: 250,000 Gallons
  - Line Pressure Verification: Pressure Equalization during Phase II
    - Pressure confirmed day of via OPORD
    - Open HPV at Tank 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
    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

[Diagram showing the pipeline and operational details]
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 15
- Tank 15 Ullage: 60,000 Gallons
- Line Pressure Verification: Pressure Equalization during Phase II and III
  - Pressure confirmed day of via OPORD
  - Open HPV at Tank 15 to Skillet to maintain ambient pressure
- Transfer Pump: Maximum 15,000 gal/hr flow rate
- Transfer Time: 1/2 day
- Return Valves to Baseline: In sequence from Tank 15 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
- Diagram showing the flow of fuel movement and operational staff members.
F-76 Pipeline Unpacking Red Hill
Concept of Operation (Date: TBD)

Operations Summary
- 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, Check Valves – Listed in Baseline
  - Training: To Maint. Order, OPORD, and Emergency Response
  - Evolution Walkthrough: All Scheduled Watch-Standees
- 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
- Transferring YON Day 1: To YON Pier at Hotel Pier (~250,000 Gallons)
- Transferring YON Day 2: To YON Pier at Hotel Pier (~372,979 Gallons)
- YON Pier: Uillage: 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
- 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)
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 [a] (3) (b) to [a] (3) (c)
  - Transferring Location:
    - 1) From LPD at [a] (3) (b) to Transfer Pump
    - 2) From Transfer Pump to [a] (3) (b)
    - 3) From [a] (3) (b) to Tank [a] (3) (c)
  - Tank [a] (3) (c): 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: 1 day
  - Return Valves to Baseline: In sequence from Tank [a] (3) (c) to [a] (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

Diagram:
- Repair Isolation Point
- Fuel Movement Boundary
- Fuel Flow Direction
- Operational Staff Member
Aerial View of Low Point Drain Transfer Footprint

- Pipeline to Tank
- Surge Suppressor
- Transfer Pump
- Low Point Drain Connections
- Transfer Connection