# ATTACHMENT 1 - EQUIPMENT TESTS

**06/2019**

**PROJECT:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**LOCATION:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

To be performed after flushing, cleaning, and control valve and electrical component adjustments

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**NOTE: This attachment covers the common subsystems and equipment that will be encountered in most DoD POL fuel systems. The user will still have to make significant modifications as every fuel system is different.**

**NOTE: This attachment should only be used by a fuels engineer with significant experience in the systems their individual project will cover.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

# ITEM 1 – COMPUTER TESTS

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| EQUIPMENT | | VERIFY | | |
| ACTION | YES | NO |
| PCP COOLING FANS AND THERMOSTAT | | PROPER OPERATION |  |  |
| COMPUTER SCREENS, SYSTEM TEST | | PRESENT AND OPERATIONAL |  |  |
| ALARM PANEL | | ALARMS ARE PRESENTED CORRECTLY  EX: PUMP FAILURE DISPLAYED ON ALARM PANEL AND ALARM SCREEN |  |  |
| POWER SUPPLY | | BACKUP POWER IS OPERATIONAL WHEN PRIMARY FAILS |  |  |
| COMPUTER | | PASSWORD PROTECTION |  |  |
| FCC COMPUTER | | CONFIRM FUNCTION IS DUPLICATE OF CONTROL ROOM COMPUTER |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++ This form is based on the single PLC, non-redundant field measuring sensor, Pump Control Panel version with backup power, all as described in UFGS 33 09 52 FUEL PUMP CONTROL AND ANNUNCIATION SYSTEM (NON-HYDRANT). If it is a dual PLC version, use the Computer Tests Form from Section 33 09 53 AVIATION FUEL PUMP CONTROL AND ANNUNCIATION SYSTEM.  ++++Edit as required for PCP provided. | | | | | |
| **DATE:** |  | | | | |
| **TIME:** |  | | | | |
| **TEST CONDUCTED BY:** |  | | | | |

# ITEM 2 - EMERGENCY SHUTDOWN

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| EMERGENCY SYSTEM | | | | | | | |  | EMERGENCY SYSTEM ACTIVATION | | | |
| DEVICE LOCATION FOR SHUT DOWN | | | LOCATION ID LIGHT ILLUMINATED | | | RED PCP ALARM | | EQUIPMENT | VERIFY | | |
| YES | | NO | YES | NO | ACTION | YES | NO |
| PUMPHOUSE 1 | | |  | |  |  |  | P1 – AUTOMATIC | STOP |  |  |
| PUMPHOUSE 2 | | |  | |  |  |  | P2 – AUTOMATIC | STOP |  |  |
| PUMPHOUSE 3 | | |  | |  |  |  | P3 – AUTOMATIC | STOP |  |  |
| CONTROL RM PCP | | |  | |  |  |  | P4 – AUTOMATIC | STOP |  |  |
| CONTROL RM DOOR | | |  | |  |  |  | P5 – AUTOMATIC | STOP |  |  |
| TRUCK FILL STAND 1 | | |  | |  |  |  | P1 – MANUAL | STOP |  |  |
| TRUCK FILL STAND 2 | | |  | |  |  |  | P2 – MANUAL | STOP |  |  |
| TRUCK OFFLOAD 1 | | |  | |  |  |  | P3 – MANUAL | STOP |  |  |
| TRUCK OFFLOAD 2 | | |  | |  |  |  | P4 – MANUAL | STOP |  |  |
| TANK NORTH | | |  | |  |  |  | P5 – MANUAL | STOP |  |  |
| TANK SOUTH | | |  | |  |  |  | FSCV – 1 (EMERG SHUTOFF) | SOLENOID  DE-ENERGIZED |  |  |
| TANK EAST | | |  | |  |  |  | FSCV – 2 (EMERG SHUTOFF) | SOLENOID  DE-ENERGIZED |  |  |
| TANK WEST | | |  | |  |  |  | FSCV – 3 (EMERG SHUTOFF) | SOLENOID  DE-ENERGIZED |  |  |
| FIRE ALARM SYSTEM | | |  | |  |  |  | FSCV – 4 (EMERG SHUTOFF) | SOLENOID  DE-ENERGIZED |  |  |
| PRT HIGH-HIGH LEVEL ALARM | | |  | |  |  |  | FSCV – 5 (EMERG SHUTOFF) | SOLENOID  DE-ENERGIZED |  |  |
|  | | |  | |  |  |  |  |  |  |  |
|  |  | | + Repeat all tests for Performance Testing  ++ Edit as required for system provided. This particular form is based on that from Section 33 09 53 AVIATION FUEL PUMP CONTROL AND ANNUNCIATION SYSTEM. Most systems will have fewer Emergency Shutdown stations and devices. | | | | | | | | |
|  |  | | **DATE:** | | | | |  | | | |
|  |  | | **TIME:** | | | | |  | | | |
|  |  | | **TEST CONDUCTED BY:** | | | | |  | | | |

# ITEM 3 – EMERGENCY SHOWER AND EYEWASH STATION

| ACTIVITY | | VERIFY | OBSERVED |
| --- | --- | --- | --- |
| EYE WASH FLOW | | 1.5 GPM |  |
| EYE WASH FLOW | | TEMPERED WATER (60-100 DEG F) |  |
| EYE WASH FLOW | | ALARM |  |
| SHOWER FLOW | | 20 GPM |  |
| SHOWER FLOW | | TEMPERED WATER (60-100 DEG F) |  |
| SHOWER FLOW | | ALARM |  |
| CIRCULATING PUMP | | FLOW |  |
| + Repeat alarms for Performance Testing  ++ Do not use if not provided  +++ Edit as required for system provided. | | | |
| **DATE:** |  | | |
| **TIME:** |  | | |
| **TEST CONDUCTED BY:** |  | | |

# ITEM 4 – FIRE ALARM

| ACTIVITY | | VERIFY | YES | NO |
| --- | --- | --- | --- | --- |
| PULL STATION | | ALARM |  |  |
| PULL STATION | | REPORTED TO FIRE DEPARTMENT |  |  |
| SMOKE DETECTOR | | ALARM |  |  |
| SMOKE DETECTOR | | REPORTED TO FIRE DEPARTMENT |  |  |
| HEAT DETECTOR | | ALARM |  |  |
| HEAT DETECTOR | | REPORTED TO FIRE DEPARTMENT |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++ Edit as required for system provided | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 5 – TIGHTNESS MONITORING SYSTEM

| SECTION TESTED | PASS/FAIL | | DURATION (MINUTES) | DETECTED LEAK RATE |
| --- | --- | --- | --- | --- |
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|  |  | |  |  |
| + Initiate test and run for 15 minutes for Performance Testing  ++ Do not use if not provided | | | | | |
| **DATE:** | |  | | | |
| **TIME:** | |  | | | |
| **TEST CONDUCTED BY:** | |  | | | |

# ITEM 6 – STORAGE TANKS

| OPERATING TANK NO. | | | | | |
| --- | --- | --- | --- | --- | --- |
| TANK LIQUID LEVEL ELEVATION | PUMP NO. | ACTIVITY | | YES | NO |
|  |  | HHLA AND  RECEIPT PUMP SHUT DOWN | |  |  |
|  |  | HIGH LEVEL VALVE (HLV) CLOSURE | |  |  |
|  |  | HLA | |  |  |
|  |  | LLA | |  |  |
|  |  | LLLA AND  ISSUE PUMP SHUT DOWN | |  |  |
| NA | NA | LLLA AND RECEIPT VALVE CLOSED (TANK CLEANING) ALARM CLEARS | |  |  |
| NA | NA | WATER DRAW OFF SYSTEM PUMP ON/OFF | |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++ Edit as required for system provided. Add as many as needed to match the number of tanks in the project.  Use fuel tank level in the tank for all tests, use exterior manual testing as a last resort. | | | | | |
| **DATE:** | | |  | | |
| **TIME:** | | |  | | |
| **TEST CONDUCTED BY:** | | |  | | |

# ITEM 7 – PRODUCT RECOVERY TANK

| TANK VOLUME | TANK LIQUID LEVEL ELEVATION | | ACTIVITY | YES | | NO |
| --- | --- | --- | --- | --- | --- | --- |
| > 95% |  | | OV-1 CLOSES |  | |  |
| > 90% |  | | HHLA AND  EMERGENCY SYSTEM ACTIVATION |  |  | |
| > 85% |  | | HLA |  |  | |
| > 70% |  | | PUMP (FTP-1) START |  |  | |
| < 20% |  | | PUMP (FTP-1) STOP |  |  | |
| NA | NA | | WATER DRAW-OFF PUMP ON/OFF |  |  | |
| NA | NA | | RP-1 ON/OFF |  |  | |
| NA | NA | | LEAK DETECTION |  |  | |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++ Edit as required for system provided. Many projects will not have this tank. Adjust the tank %Volume setpoints to suit local and state requirements as well as installation and service standards. | | | | | | | |
| **DATE:** | |  | | | | | |
| **TIME:** | |  | | | | | |
| **TEST CONDUCTED BY:** | |  | | | | | |

# ITEM 8 – FUEL PUMPS

| PUMP NO. | PROPER ROTATION W/PRIMARY POWER | | | PROPER ROTATION W/BACKUP POWER | | SHUT DOWN  WITH NO FLOW | | MANUAL START BUTTON STARTS PUMP | MANUAL  STOP  BUTTON  STOPS PUMP |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| YES | NO | | YES | NO | YES | NO |  |  |
| FP-1 |  |  | |  |  |  |  |  |  |
| FP-2 |  |  | |  |  |  |  |  |  |
| FP-3 |  |  | |  |  |  |  |  |  |
| FP-4 |  |  | |  |  |  |  |  |  |
| FP-5 |  |  | |  |  |  |  |  |  |
| FP-6 |  |  | |  |  |  |  |  |  |
| + Repeat two tests (selected by Government Witness) for Performance Testing  ++ Do not use if project does not add or modify pumps or pump controls  +++Two right columns are for hardwired start stop pushbuttons  ++++ Edit as required for system provided | | | | | | | |  |  |
| **DATE:** | | |  | | | | |  |  |
| **TIME:** | | |  | | | | |  |  |
| **TEST CONDUCTED BY:** | | |  | | | | |  |  |

# ITEM 9 - PUMP OPERATION - AUTOMATIC MODE (PRESSURE AND FLOW CONTROLS PUMPS)

**SELECTED LEAD PUMP FP-1**

**XXX-XXX SETPOINT RANGE**

**{XXX} DEFAULT VALUE**

**[\_\_\_\_\_] CURRENT VALUE**

| Measuring Device | LeadPump Start | Second Pump Start | Third Pump Start | Fourth Pump Start | Fourth Pump Stop | Third Pump Stop | Second Pump Stop | Lead Pump Stop |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pressure Indicating Transmitter | 30-150 PSIG  {60} PSIG  [**\_\_\_\_\_]**  PSIG |  |  |  |  |  |  | 130-190 PSIG  {140} PSIG  [\_\_\_\_\_] PSIG |
| Issue Venturi Differential Pressure Transmitter |  | 450-650 GPM  {> 560} GPM  [\_\_\_\_\_] GPM | 1000-1300 GPM  {> 1160} GPM  [\_\_\_\_\_]GPM | 1600-1900 GPM  {>1760} GPM  [\_\_\_\_\_]GPM |  |  |  |  |
| Return Venturi Differential Pressure Transmitter |  | 10-100 GPM  {< 40} GPM  [\_\_\_\_]GPM | 10-100 GPM  {< 40} GPM [\_\_**\_\_]** GPM | 10-100 GPM  {< 40} GPM  [\_\_\_\_]GPM | 500-800 GPM  {> 560} GPM  [\_\_\_\_\_] GPM | 500-800 GPM  {> 560} GPM  [\_\_\_\_\_] GPM | 500-800 GPM  {> 560} GPM  [\_\_\_\_\_] GPM | 500-800 GPM  {> 560} GPM  [\_\_\_\_\_] GPM |
| + Not required for Performance Testing  ++ Use only if system use pressure and flow to start and stop pumps  +++Provide one for each pump that may be selected as lead pump  ++++ Edit as required for system provided. Example shown here is for a 2,400 gpm hydrant system that uses five 600 gpm pumps (one standby) | | | | | | | | |
| **DATE:** | |  | | | | | | |
| **TIME:** | |  | | | | | | |
| **TEST CONDUCTED BY:** | |  | | | | | | |

# ITEM 10 - PUMP OPERATION - AUTOMATIC MODE (PUSHBUTTON STATIONS CONTROL PUMPS)

| Lead Pump | Device | LeadPump Start | Second Pump Start | Third Pump Start | Fourth Pump Start | Fourth Pump Stop | Third Pump Stop | Second Pump Stop | Lead Pump Stop |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| FP-1 | Start Stop Pushbutton Station | Depress 1st Start Pushbutton | Depress 2nd Start Pushbutton | Depress 3rd Start Pushbutton | Depress 4th Start Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton |
| FP- (Contracting Officer Selects Pump) | Start Stop Pushbutton Station | Depress 1st Start Pushbutton | Depress 2nd Start Pushbutton | Depress 3rd Start Pushbutton | Depress 4th Start Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton | Depress Any Stop Pushbutton |
|  | + Repeat during Performance Testing  ++ Use if system has Start/Stop Pushbutton Stations to Control Pumps through a Pump Control Panel  +++Edit as required for system provided. Example shown here is for a four pump system. | | | | | | | | |
|  | **DATE:** | |  | | | | | | |
|  | **TIME:** | |  | | | | | | |
|  | **TEST CONDUCTED BY:** | |  | | | | | | |

# ITEM 11 – FLUSHING WITH WATER

| FLUSHING WITH WATER | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| LINE/LINE SIZE | WATER SOURCE | | VOLUME OF WATER USED FOR FLUSHING | LENGTH OF TIME FLUSHING AT FLUSHING FLOWRATE (MINUTES) | FLOWRATE/  VELOCITY  (GPM/FPS) | |
|  |  | |  |  | 1 | |
|  |  | |  |  | 2 | |
|  |  | |  |  | 3 | |
|  |  | |  |  | 4 | |
|  |  | |  |  | 5 | |
|  |  | |  |  |  | |
| + Pier piping only  ++ Edit as required for system provided | | | | | | |
| **DATE:** | |  | | | |
| **TIME:** | |  | | | |
| **TEST CONDUCTED BY:** | |  | | | |

# ITEM 12 – FLUSHING WITH FUEL

| FLUSHING WITH FUEL | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| STORAGETANK NO. \_\_\_\_\_  LEVEL-START | STORAGE TANK NO. \_\_\_\_\_  LEVEL-FINISH | | PRESSURE GAGE READING AT PUMP NON-SURGE CHECK VALVE DISCHARGE  (PSIG) | FLOWRATE/  VELOCITY  (GPM/FPS) | NUMBER OF PUMPS OPERATING | |
|  |  | |  |  | 1 | |
|  |  | |  |  | 2 | |
|  |  | |  |  | 3 | |
|  |  | |  |  | 4 | |
|  |  | |  |  |  | |
|  |  | |  |  |  | |
| + Repeat for Performance Testing  ++ Edit as required for system provided | | | | | | |
| **DATE:** | |  | | | |
| **TIME:** | |  | | | |
| **TEST CONDUCTED BY:** | |  | | | |

# ITEM 13 – [INSTALLATION][INTERTERMINAL ]PIPELINE

| – [INSTALLATION][INTERTERMINAL ]PIPELINE | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| STORAGETANK NO. \_\_\_\_\_  LEVEL-START | STORAGE TANK NO. \_\_\_\_\_  LEVEL-FINISH | | PRESSURE GAGE READING AT PIPELINE INLET  (PSIG) | PRESSURE GAGE READING AT PIPING OUTLET  (PSIG) | FLOWRATE/  VELOCITY  (GPM/FPS) | |
|  |  | |  |  | 1 | |
|  |  | |  |  | 2 | |
|  |  | |  |  | 3 | |
|  |  | |  |  | 4 | |
|  |  | |  |  |  | |
|  |  | |  |  |  | |
| + Repeat for Performance Testing  ++ Edit as required for system provided | | | | | | |
| **DATE:** | |  | | | |
| **TIME:** | |  | | | |
| **TEST CONDUCTED BY:** | |  | | | |

# ITEM 14 – TANK [TRUCK][CAR][TRUCK/CAR] PACKAGED OFF-LOADING SYSTEM SKID

| SKID [ ] | | | |
| --- | --- | --- | --- |
| ACTIVITY | | YES | NO |
| Air Eliminator fills completely when truck connects | |  |  |
| Offload pump is enabled when Low Sensor is exceeded | |  |  |
| Offload pump is disabled when Scully is disconnected | |  |  |
| Pump de-energized upon no flow | |  |  |
| Manual stop will de-energize pump | |  |  |
| Offload rate begins at 600 gpm | |  |  |
| Offload slows to 300 gpm when level drops below Upper Sensor | |  |  |
| Offload rate slows to 150 gpm when level drops below Middle Sensor | |  |  |
| Offload pump stops when level drops below Low Sensor | |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++Provide one for every skid that is furnished.  ++++ Edit as required for system provided. System shown is a 600 gpm system with 0/150/300/600 gpm setpoints. | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 15 – TANK [TRUCK][CAR] DROP TANK OFFLOADING SYSTEM

| TANK [ ] | | | |
| --- | --- | --- | --- |
| ACTIVITY | | YES | NO |
| Transfer Pumps enabled when tank [Low ][Low-Low]Sensor is exceeded | |  |  |
| Transfer Pump starts when tank High Level Sensor is exceeded. | |  |  |
| Pumps are de-energized on no flow condition from flow switch | |  |  |
| Manual stop de-energizes Transfer Pumps | |  |  |
| Tank overfill valve closure upon tank high level condition | |  |  |
| Level alarm actuation | |  |  |
| On/off staging of pump[s] by tank level alarms/probes | |  |  |
| Pump shutdown on tank low level condition | |  |  |
| Tank leak detection system performance | |  |  |
| Manual start/stop pushbutton control | |  |  |
| Tank gauging system | |  |  |
| Receipt meter performance [and verification of proper calibration] | |  |  |
| + Provide one per drop tank  ++ Repeat all tests for Performance Testing  +++ Demonstrate all other tank features and functions per the applicable specifications  ++++ Edit as required for system provided | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 16 – TANK [TRUCK][CAR][TRUCK/CAR] DIRECT OFFLOADING SYSTEM

| POSITION [ ] | | | |
| --- | --- | --- | --- |
| ACTIVITY | | YES | NO |
| Offload pump is enabled when the truck fillstand overfill protection and ground verification unit shows a good ground and that the deadman is depressed | |  |  |
| Offload pump is disabled when overfill protection and ground verification unit is disconnected | |  |  |
| Offload pump is disabled when the overfill protection and ground verification unit indicates that ground continuity is lost | |  |  |
| Offload pump is disabled when overfill protection and ground verification unit system deadman is released | |  |  |
| Offload pump starts when all permissives are met and start pushbutton is depressed | |  |  |
| Offload pump stops when stop pushbutton is depressed | |  |  |
| Offload pump stops when the storage tank (that the truck is delivering fuel to) level rises above the [High][High-High]  Sensor | |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++Provide one for every station  ++++ Edit as required for system provided. | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 17 – TANK [TRUCK][CART][TRUCK/CART] DIRECT LOADING SYSTEM

| SKID [ ] | | | |
| --- | --- | --- | --- |
| ACTIVITY | | YES | NO |
| Load pump is enabled when the truck fillstand overfill protection and ground verification unit shows: a good ground, that the tank truck fuel level is below the high level sensor, and that the deadman is depressed | |  |  |
| Load pump is disabled when the overfill protection and ground verification unit is disconnected | |  |  |
| Load pump is disabled when overfill protection and ground verification unit indicates that ground continuity is lost | |  |  |
| Load pump is disabled when overfill protection and ground verification unit deadman is released | |  |  |
| Load pump is disabled when overfill protection and ground verification unit shows that that tank truck fuel; level is above the high level sensor | |  |  |
| Load pump starts when all permissives are met and start pushbutton is depressed | |  |  |
| Load pump stops when stop pushbutton is depressed | |  |  |
| Load pump stops when tank level )of the tank the pump is withdrawing fuel from) falls below the [Low][Low-Low]  Sensor | |  |  |
|  | |  |  |
| Offload pump stops when level drops below Low Sensor | |  |  |
| + Repeat all tests for Performance Testing  ++ Do not use if not provided  +++Provide one for every skid that is furnished.  ++++ Edit as required for system provided. System shown is a 600 gpm system with 0/150/300/600 gpm setpoints. | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 18 –TRUCK FILL CONTROL VALVES

| Truck Fill Control Valve  (TFCV)  No. | TFCV  Size  (Inch) | TFCV  Inlet Pressure (PSIG) | TFCV  Outlet Pressure (PSIG) | TFCV Deadman Closure Rate (SEC) | TFCV  Max Outlet  Pressure  During Surge\* (PSIG) | TFCV  Flow  Rate  (GPM) | TFCV\*  Outlet  Pressure (PSIG) | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| Nozzle\* - Nozzle outlet pressure ( skin of the truck 35 psi)  Surge\* (40 max truck) - Simulate surge by closing truck valve using a 3 second count  One pump in operation  + All control valves to be witnessed during Performance Testing  ++ Edit as required for system provided | | | | | | | |
| **DATE:** | |  |  |  |  |  |  | |
| **TIME:** | |  |  |  |  |  |  | |
| **TEST CONDUCTED BY:** | |  |  |  |  |  |  | |

# ITEM 19 – MARINE FUELING SYSTEMS – WITH WATER

| Position Number | Loading Arm Function  and Range | | Stripping Pump Operation | | Operation of Vents Drains, Air Eliminators, Hose Connections | | Operation of Thermal Relief System) | | Correct Installation of Piping Expansion Loops and Supports | | Electrical Isolation Between the Pier Piping and the Vessel |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
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| + Perform Operations with water prior to introduction of fuel  ++ Edit as required for system provided | | | | | | | | | | | |
| **DATE:** | |  | |  | |  | |  | |  | |
| **TIME:** | |  | |  | |  | |  | |  | |
| **TEST CONDUCTED BY:** | |  | |  | |  | |  | |  | |

# ITEM 20 - MARINE FUELING SYSTEMS – WITH FUEL (PHASE 1)

| POSITION NUMBER | LOADING ARM FUNCTION/RANGE | | STRIPPING PUMP OPERATION | OPERATION OF VENTS, DRAINS, AIR ELIMINATORS, HOSE CONNECTIONS |
| --- | --- | --- | --- | --- |
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| **DATE:** | |
| **TIME:** | |
| **TEST CONDUCTED BY:** | |

# ITEM 21 - MARINE FUELING SYSTEMS – WITH FUEL (PHASE 2)

| Position  No. | Connection Size  (Inch) | Inlet Pressure (PSIG) | Flow  Rate  (GPM) | Volume of Fuel Moved  (Gallons/  Barrels) | Storage Tank No. \_\_\_\_\_  Level-Start  (Ft/Inches) | Storage Tank No. \_\_\_\_\_  Level-Stop  (Ft/Inches) | Time Flowing  (Minutes) | |
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| + Measure Inlet Pressure at Shore Connection  ++ Edit as required for system provided | | | | | | | |
| **DATE:** | |  |  |  |  |  |  | |
| **TIME:** | |  |  |  |  |  |  | |
| **TEST CONDUCTED BY:** | |  |  |  |  |  |  | |

# ITEM 22 – MILITARY SERVICE STATION

| [GASOLINE][DIESEL][JET FUEL][E-85][ ] PRODUCT SYSTEM | | | |
| --- | --- | --- | --- |
| ACTIVITY | | YES | NO |
| Vapor recovery systems are free of debris and perform as designed | |  |  |
| Fuel dispensing units are operational and perform as designed | |  |  |
| Verify accounting meters and displays on fuel dispensing units are calibrated and functioning as designed | |  |  |
| Verify fuel dispenser nozzles interlocks start and stop pumps as designed | |  |  |
| Verify management control systems function as designed | |  |  |
| Verify meter performance and verification of proper calibration | |  |  |
| Verify that the emergency break-away hose connections on the dispenser hoses works properly | |  |  |
| Verify that the system is tested in accordance with 40 CFR Part 60 Subpart XX and 40 CFR 63 Subparts R, BBBBBB, and CCCCCC.] | |  |  |
| + Provide one per product  ++ Repeat all tests for Performance Testing  +++ Demonstrate all other tank features and functions per the applicable specifications  ++++ Edit as required for system provided | | | | |
| **DATE:** |  | | | |
| **TIME:** |  | | | |
| **TEST CONDUCTED BY:** |  | | | |

# ITEM 23 - FILTER SEPARATOR FLOAT CONTROL VALVE MANUAL TEST

|  |  |  |
| --- | --- | --- |
| FILTER SEPARATOR | FILTER SEPARATOR CONTROL VALVE  WATER SLUG FEATURE OPERATION | |
| YES | NO |
| Filter Separator (Issue) – 1 |  |  |
| Filter Separator (Issue) – 2 |  |  |
| Filter Separator (Issue) – 3 |  |  |
| Filter Separator (Issue) – 4 |  |  |
| Filter Separator (Issue) – 5 |  |  |
| Filter Separator (Receipt) – 1 |  |  |
| Filter Separator (Receipt) – 2 |  |  |
|  |  |  |
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| + Repeat for Performance Testing  ++ Edit as required for system provided | | |
| **DATE:** |  | |
| **TIME:** |  | |
| **TEST CONDUCTED BY:** |  | |

# ITEM 24 – FUEL SAMPLING RESULTS

| SAMPLING LOCATION | COLOR  (PASS/FAIL) | | | PARTICULATE (MG/GALLON) | FREE WATER  (PPM) | |
| --- | --- | --- | --- | --- | --- | --- |
| Filter Separator (Issue) Downstream |  | | |  |  | |
| Filter Separator (Receipt) Downstream |  | | |  |  | |
| Truck Fill Stand |  | | |  |  | |
| Tank 1 |  | | |  |  | |
| Tank 2 |  | | |  |  | |
| Existing Fuel System Cleanliness Test 1 |  | | |  |  | |
| Existing Fuel System Cleanliness Test 2 |  | | |  |  | |
| Existing Fuel System Cleanliness Test 3 |  | | |  |  | |
| Existing Fuel System Cleanliness Test 4 |  | | |  |  | |
| < XX mg/gallon particulates  <XXppm free water | | | | | | |
|  | QUANTITY  (GALLONS) | | | | | |
| Contaminated Fuel |  | | | | | |
| Petroleum Contaminated Water |  | | | | | |
| **+**Adjust Particulate and Free Water Cleanliness Parameters to Suit MIL-STD-3004  Edit to suit particular system  **DATE:** | | | | | |
| **TIME:** | |  |  | | |
| **TEST CONDUCTED BY:** | |  |  | | |

|  |  |
| --- | --- |
| I certify that the values recorded in Items 1-17 are accurate and correct. (To be signed by System Supplier during Equipment Tests) | |
| DATE: |  |
| SIGNATURE: |  |
| ORGANIZATION: |  |

|  |  |
| --- | --- |
| I witnessed designated (+) Equipment Tests during Performance Testing. (To be signed by Government Witness(es) during Performance Testing) | |
| DATE: |  |
| SIGNATURE: |  |
| ORGANIZATION: |  |

# ITEM 25 - PERSONNEL PRESENT DURING PERFORMANCE TESTING

| **NAME** | **ORGANIZATION** | **COMMERCIAL PHONE NO.** |
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REMARKS:

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| CLEANING DAY NUMBER |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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**NOTE: Provide one per Filter Separator**

**PRESSURE DROP IN POUNDS PER SQUARE IN (PSI)**

# ITEM 26 - CLEANING OPERATION DAILY FLOW VS. PRESSURE DROP GRAPH FOR FILTER SEPARATOR NO.

\* ELEMENT CHANGE CRITERIA: (1) When pressure drop across filter separator reaches 15 PSI

(2) When pressure drop is less than previous plot or fails to increase properly

STARTING DATE: SIGNATURE: