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Date: September 3, 2015

Submitted to: Crossville Memorial Airport
Crossville, TN 38555

Project: **Jet A fuel system cabinet and piping**
180gpm offload, 110 gpm single point, 60 gpm overwing

- Build 8' x 8' fuel cabinet. Cabinet frame to be made of carbon steel, primed with Sherwin Williams macropoxy and top coat of Sherwin-Williams Hi Solids Polyurethane applied.
- Install Aluminum skin panels and doors with stainless steel hinges.
- Install all appropriate decals.
- The Tank Fill piping is stainless steel 3" and the connection point will have spill protection, The Jet A has a 4" fill adapter.
- 3" Blackmer Positive displacement pump with 10HP 3 phase motor.
- There will be a Shut off valve at the Tank Fill connection point and a check valve to prevent any backflow of product when delivery driver is disconnecting his hose. There will also be a catch /containment area to contain any spilled fuel from the fill connection.
- There will be anti siphon valve installed on the suction line coming from inside the tank. This is to prevent accidental siphoning of fuel out from the tank in the event of a broke line. TIG Welded Stainless Steel pipe to be used throughout. Finished tank and fuel systems will be shop fabricated and tested at 1.5 to 2 times system operating pressure prior to delivery.
- There is a TCS 3" aviation type high flow fuel meter for the JET A system.
- There is a 1.5"x 100' hose reel and hose with overwing nozzle, and a 2" x75' and separate hose reel for Single Point fueling on a separate 2" hose reel.
- Hoses tested and certified to meet API 1529 specifications.
- Hannay aviation hose reels and 100' static bonding cable reels to be installed.
- There is a spring loaded Fire Shut Off valve installed after the filter vessel which has a Fusible link. This soldered link is designed to melt and the spring will close the valve shut to stop the flow of fuel in case of Fire.
- Install Gammon 1cc water defense on JET A filtration system.
- Jet A to use Velcon 1633 vessel with 5th edition coalescer elements and a single coated screen separator element.
- Piping after the JET A filter vessel will pipe into relaxation chamber.
- Installation of a Gammon pressure Differential Gauge will give indication of pressure difference between Inlet and Outlet of the filter vessel.
- Air elimination and pressure relief valves on filter and relaxation vessels are to be piped to discharge into to return piping returning into the storage tank.
- Pressure reliefs will be installed in sections of isolated piping.
- The existing site has 4" pipe bollards installed on the front fueling side to protect the fueling pumping and dispensing components.
- For Overwiwng - Fuel will be pumped from the 12,000 gallon tanks into the aircraft-using OPW 295 over wing fuel nozzles designed for Aviation use. There will be No Latching Hold Open Devices on the Overwing nozzles. The JET-A overwing nozzle will have the duckbill type spout to help prevent cross filling contamination.
- Neither of the Nozzles, with hoses fully extended, are able to reach to within 5' of the building opening.
- There is a handheld deadman device for use with using the single point nozzle on the JET A system. The deadman device is activated for use when the singlepoint nozzle is removed from the storage unit.
- 2" – 3" Piping to be Stainless Steel and welded, Smaller pipe will be Stainless Steel and threaded.

- All Piping to be stainless steel, TIG Welded. All piping is to be aboveground and supported, from cabinet to aboveground tank.
- There will be a two stage solenoid valve (slow down valve) installed inline to control fuel flow. The solenoid is designed to allow downstream pressure to release when valve is DE energized, preventing a closed pressurized area downstream of valve.
- 3" suction and return piping will use metering type butterfly valves.
- Piping will have directional flow arrows.
- The emergency stop will shut off all power to the new fuel farm.
- There will be One(1) 20BC fire extinguisher installed at front of each fuel tank and a 20BC fire extinguisher installed at the emergency stop location, (total of 3).
- After system is installed, Fuel is to be put into tank, then the system is to be purged of air and flushed by recirculating fuel back into tanks through the filters.
- A soak test will be performed at the end of 7 day soak with fuel, samples will be sent to Intertek for ASTM 1655 (JET A) lab analysis.
- Calibrate Meters
- Final electrical Inspection
- Final Fire Marshall Inspection

Budget Price for furnishing and installing fuel cabinet , piping and electrical……$120,000.00

Closing
We appreciate the opportunity to submit our proposal for this project and would always welcome your opinion on our pre and post services.

Michael Hull
TPM Inc.
2040 Old Louisville Rd.
Bowling Green, KY 42101
(270)781-4945 fax (270)793-0088