



## **Technology and Emergency Response Center (TERRC) Clarification #4**

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**Issued: Wednesday, February 5, 2020**

1. *There is ~20,000 SY of subgrade reinforcement geogrid in the bid list, but I couldn't find a spec (perhaps I overlooked it)? Please clarify. **The geotextile is Combigrid® 30/30 Q1 151 GRK by NAUE or equal per 02320.10 special provisions.***
2. **Revise Q12 from Clarification #1: The TERRC contractor is now responsible for the clearing and grubbing and erosion control as included in the Addendum #2 plans. The wetland mitigation pond excavation is now part of the TERRC contract.**
3. **Revise Q14 from Clarification #1: The TERRC contractor is now responsible for the excavation of the wetland mitigation pond and any stockpiling of the excavated material.**
4. *I could not find a detail for the area where the recycled aggregate is used. Could you tell me where the recycled aggregate is used? **Per 00640.10, the recycled aggregate is to be used as aggregate base course in minimum 6" thickness.***
5. *Spec states that the existing av gas is going to be removed from one place on site, and installed in another location, it reads as if it will be moved in its entirety. Then in other places in the spec, I see that it says new components to be included as needed to meet code. We will need to know what items are needed or wanted if the av gas fueling system is indeed to be modified and it is not simply being moved in its entirety. Is there a list of desired components? Is there a drawing of what configuration you want as far as any changes go, or a list of modifications you wish to have. Also, to that same point, NFPA 407 newest version does not differentiate between av gas and jet a, meaning that if you literally interpret NFPA 407 that static is now required on a bulk av gas system, do you want static relaxation vessel on the bulk av gas system, as it is obviously more volatile than jet a. **It is recommended that the bidder takes a site visit to inspect and take inventory of the tank and evaluate the equipment to bring it into compliance with NFPA 407.***
6. *Spec states you want drawings of "both systems". It is understood that manufacturer of jet system would provide drawings, but are you also asking that either the manufacturer that will provide drawings for the jet a skid, or the general contractor, also draw up and supply drawings on whatever existing av gas system you have? **Contractor will provide a layout which shows both systems and the new equipment and piping that will be installed/placed during construction.***
7. *Spec asks for "stamped" drawings, stamped by Oregon engineer. I have not seen this requirement in the past. It is unclear what type engineer would stamp the system drawings, and or what discipline that said engineer would need to be. On a concrete slab or something of that nature, it would obviously be a structural engineer, and they would need to provide said calcs to build slab from, it is*

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*not a common requirement to have system drawings stamped by an engineer, as the system has already been specified and designed by whomever was the publishing authority. To be clear, we can get a standard engineer to stamp drawings, but what is he stamping, and or what is it that he is calculating, thermal expansion, placement of supports, strength of bolts? And if drawings actually are required on the existing av gas, what is the engineer stamping. Just need clarification so can provide this if it is actually wanted/needed. **The Contractor shall provide stamped drawing of the concrete slab.***

8. *4-50 states new fuel system to accommodate retail overwing for jet a, and also asks for av gas, av gas is stated earlier in spec as existing that will be moved. If we are to modify av gas we will need clarification and information. **The current avgas system has a POS terminal, however the Port would like a new POS system that integrates the fueling from both tanks.***
9. *00950.31 goes on to say, " both fuel types configured to receive fuel " etc. which would indicate something is also being done with av gas system which was stated earlier would only be moved, need to know how it will be configured, to what extent it exists, proposed modification, etc. **The existing avgas tank already has the ability to receive bulk loading.***
10. *Item "e" is not clear to me. States it wants to drain spilled jet fuel back into tank, it looks like spec was written around a convault type tank. On jet fuel or aviation fuel, every effort is spent in making sure fuel is clean, is it really the intent to make this large tank a top fill tank, which has the ability to drain particulates back into the primary tank? Or is this a typo. **This tank is not intended to be a top fill tank.***
11. *20 year warranty. The tank itself will have a 30 year warranty as is typical with 2085 tanks. There is really no way to warranty the "system" itself for 20 years, we have never seen that written into a spec. Is this potentially a typo which was meant to indicate 30 year warranty on tank? Normal warranty on these systems is one year parts and labor from time it goes into service. An extended warranty would be expensive. **The tank shall have a minimum warrantee of 20 years. System parts and labor shall be one year.***
12. *Spec is asking for 50 gpm overwing on the jet a. That is very fast. Is this possibly a typo? Typical on overwing fuel for jet aircraft is 30 gpm. Spec is asking for that same flow rate on av gas, though av gas is existing and being moved, how will we proof and be sure the existing will flow at any given flow rate, or is pump and or piping mod part of the move of the av gas , will need details. **30gpm will be adequate. The existing avgas fueling rate is set and can't be changed.***
13. *4-52 g, states "empty entire tank without moving tank, "not possible. This tank will be sloped per ATA 103, and will have a floating suction, which pulls on an inverted U, there will eternally be fuel trapped in the tank that cannot be removed. Please advise if this is typo from spec for some other fuel type. **Remove as much fuel as possible. Contractor will be responsible for any clean-up or remediation of any fuel spillage during transport.***
14. *Spec states single phase power available, but asks for 200 gpm pump. While we can provide a 200 gpm single phase pump, it will be incredibly expensive to operate, and will operate at the top of the pump curve which will cause premature failure. Would a three phase pump be acceptable, with a variable frequency drive? **Assume single phase pump.***

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15. Spec asks for 1.25 x 100' hose, asks for 75 ft ground reel, ground reel will not reach aircraft by some 25'. Would you want either 100 ft ground, or 75 ft hose, ? The two numbers need to match in order for system to operate, please advise. **100 feet for both.**
16. Spec, 4-53 wants dead man control on overwing nozzle, dead man controls are typically only used with single point underwing or into truck fueling, they are not associated with overwing fuel. The handle on the typical OPW 295 SAJ nozzle is non locking and acts as a dead man. Is this a typo or is the intent actually having electrical deadman control operate overwing fueling operation, (it would require both hands to fuel). **A deadman is not required for an overwing nozzle.**
17. 4-53 J, skids. Is intent to have full length box steel supports under entire length of tank ( skids) or is intent to have tank on typical saddles with anchor points, and to have the fueling equipment sit on " skid" made of structural that sits on end of tank and is a non separating unit. There is no drawing. Full length skids under entire tank will add significant expense. **It is up to the discretion of the supplier as to use skids or saddles**
18. 4-53 meters "readable at night" typical bulk meters for the 200 gpm range are not internally lighted, is intent to have area light. **There will be an area light**
19. Meters, it is asking for a pulser on refueler meter, are they going to sell fuel to their own refueler? With a pulser on the bulk meter, they will have to run a card in the card system every time they put fuel in their own truck. **There will be a time (fire season) when other agencies will need bulk fuel and the Port needs to record the fuel flow.**
20. On enclosure, there are no system drawings. Will the enclosure sit directly on the end of the tank as is typical, and do you want lighting in the actual cabinet. **On the end of the tank, with lighting in the cabinet.**
21. On fuel test kit that spec is asking for, do we include it for jet a only, or does it need to encompass av gas hydrometer etc. **Test kit for both**
22. Spec is asking that tank manufacturer and or system provider also include anchors. We cannot provide anchors with the tank, as you have stated you will want the slab engineered by the site contractor, the engineer would need to tell someone what anchorage and to what system to provide it, we cannot price something that we do not as of yet know what it is, unless you have already done the engineering. **The Site Contractor will need to provide this**
23. 2 reclaims .... what size. 7-15-or 30 gallon. I highly recommend 30 as it has actual truck style lid with true gasket. also on reclaim, it is asking for sump heater, while I have seen that done on jet a, I have never seen that done on av gas as av gas is extremely volatile, is a heater in the bottom of the av gas reclaim actually wanted. **30 gallon and no heater for avgas**
24. NFPA 407 2017 section 5.1.12 will require truck monitors be in place on refueler loading facilities by 2022 to monitor refueler loading and shut off fuel flow valve, is this something you would want an alternate on, it will be less expensive to add it now than later. **Please add this in.**
25. Monitor elements are being phased out and will no longer be supported by the filter element manufs. Most entities putting in av gas are switching to the standard coalesce separator type vessel more

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usually associated with jet a, with true water defense. If av gas is being upgraded during the move, would this vessel change out be wanted or needed. **Switch out if needed**

26.4-55 sump heater with "Pilot light"? Please clarify. Sump heaters are typically electrical. **No need for a pilot light**

27. Will a soak test be required on the jet a tank? **Only if required by any of the specifications or standards listed.**