2. Tank Inspection, Repair, and Maintenance

a. Current TIRM procedures, including:

1. Non-destructive testing
   - LFET, BFET, UT, MT, Dye Penetrant, Pressure Test, Vacuum Test
   - Differentiate between tank inspection methods and Repair inspection methods

2. Destructive testing
   - destructive testing has not be performed
   - What would be the objective for destructive testing
   - Welding?

3. Quality control
   - KTR performs Quality Control per P-445
   - P-445 defines the three phases of control

4. Welding inspections
   - NDE per API 653 requirements: ASME Section IX and V

5. Tank inspections
   - Modified API 653
   - API 653 allows changes. Tank Engineer is to design the inspection.

6. Pipeline inspections
   - Pigging, guided wave pipelines in tunnel
   - Tank nozzles – pressure test

7. Alarm operation and testing
   - FLC will provide this information
   - SPAWAR maintains ATG system

8. Recommissioning (after maintenance or repair of tanks taken temporarily out of service);
   - KTR provides suitability for service statement
   - KTR provides a return to service plan – lock out/tag out, clean tank, remove grit, remove debris, remove plastic bag over vent, etc.

b. Lessons learned from Tank 5 and related modifications to current procedures;
- Develop a list of lessons learned (in process)
- Primarily issues with QC and Govt relied too much on KTR QC.

c. Quality Control and Assurance of TIRM;

- Need better criteria for Quality Control
- Review/update BMS for Quality Assurance
- Better QC & QA of Inspection Report and recommended repairs

d. Options for improving the TIRM procedures,

- Develop UFGS for tank inspection
- Develop UFGS for tank repair
- Require design of repairs prior to mobilization

e. Schedule/frequency of modified American Petroleum Institute ("API") 653 tank inspections, repairs, and maintenance

- The UFC 3-460-03 is currently being updated & will be tri-service
- Currently using MO-230
- This is the first round of inspections, not enough data to develop facility wide corrosion rates
- The GOVT is not adopting Risk Based Inspection frequency due to mission requirements.

f. Actions that can be taken throughout the facility, as soon as practicable, to reduce risk of release that can be implemented independent of tank upgrades.

- Continue with inspections
- Use new criteria documents
- Adapt new QC and QA processes
- Incorporate new NAVSUP instruction to Return the tank to Service.
- Investigate the frequency of Leak Detection Testing (Refer to SOW #4)