Phase 1: HDU Cable Redesign and CRT Specification Upgrade

The following corrective actions will be implemented in Phase 1:

Cathode Ray Tube (CRT)

The CRT has a cutoff voltage specification of –40 to –70 volts. The cutoff voltage will gradually increase over time when the CRT is powered-up and operating. When the cutoff voltage increases above –39V the DAP BIT indicates a failure and the CRT & Cable Assembly must be returned to WRSC for CRT replacement. Many new CRTs have an initial cutoff voltage of -45 Volts or higher. EFW is working with our CRT suppliers to improve manufacturing processes and ensure a larger quantity of new CRTs will be delivered with initial cutoff voltages in the mid range of the specification. This will improve the overall CRT life by decreasing the number of CRTs with high initial cutoff voltages. EFW has worked with the suppliers to ensure the same procedures are being used to measure cutoff voltage. EFW will continue to work with our suppliers and update our CRT specification to more adequately define the cutoff voltage requirements and the method and procedure for measuring cutoff voltage. Completion of this task will be the release of the updated CRT supplier specification which aligns the supplier acceptance criteria with the EFW/TACOM CRT acceptance criteria

Cable Configuration

The HDU Cable connects to the aircraft via the Display Adjust Panel (DAP). The installation angle of the DAP and the connector offset from perpendicular results in the connectors being attached approximately 28° from vertical. The original cable build configured the bi-focated cable end to be manufactured with the keying of the two connectors exactly linear. Combined with the short 8” strain relief (from connector end to ‘Y’ bifocation point) the cable had to be twisted to attach the connectors. This resulted in a twisted cable and a very tight bend radius of the cable as it exits the strain relief. EFW will update the cable documentation and change their build process to meet the 28° requirement and lengthen the strain relief to 12”. This will eliminate the twist and reduce the strain on the cable assembly. This is considered a Class 2 Change and will be released to production upon completion of the engineering documentation. Completion of this task will be the release of the Engineering documentation and the update of the production files to reflect the new design.