

ENVIRONMENTAL ACCEPTANCE TESTING FOR SPACE SHUTTLE PROGRAM

● REQUIREMENTS

● BASIC REQUIREMENTS

● JSC SPECIFICATION SP-T-0023 REV A

● ELEMENTS OF REQUIREMENTS

● HARDWARE SELECTION

● TEST ENVIRONMENTS

● TEST LEVELS

● TEST DURATION

→ ENVIRONMENTAL ACCEPTANCE TESTING FOR ON SPACE SHUTTLE IMPLEMENTATION PLAN

● PHASE I

- IMPOSE THE SPECIFICATION SP-T-0023 REQUIREMENTS FOR CONSIDERATION ON ALL HARDWARE ITEMS FOR WHICH THERE IS A CERTIFICATION REQUIREMENT.

● PHASE II

- HARDWARE PRIME CONTRACTOR OR GFE SUPPLIER CONDUCT AN EVALUATION OF THE ALL HARDWARE ITEMS FOR COMPLIANCE WITH SPEC. SP-T-0023 AND ESTABLISH A PRELIMINARY LIST OF HARDWARE FOR ENVIRONMENTAL ACCEPTANCE TESTING.
- THE PRELIMINARY LISTING TO CONTAIN:
 - HARDWARE ITEMS SELECTED
 - TEST ENVIRONMENT(S) SELECTED
 - TEST LEVEL(S)
 - TEST DURATION

ENVIRONMENTAL ACCEPTANCE TESTING FOR SPACE SHUTTLE IMPLEMENTATION PLAN (CONTD)

● PHASE III

- JOINT NASA-JSC AND PRIME CONTRACTOR: AND/OR GFE SUPPLIER TEAM REVIEW OF ALL HARDWARE ITEMS FOR WHICH THERE IS A CERTIFICATION REQUIREMENT FOR COMPLIANCE TO SPT-0023.
- JOINT TEAM REVIEW EFFORT TO BE INITIATED ABOUT THE TIME OF THE PRELIMINARY DESIGN REVIEW AND COMPLETED BY CRITICAL DESIGN REVIEW.
- TEAM OBJECTIVES WILL BE TO ESTABLISH A JOINTLY AGREED TO LISTING OF HARDWARE ITEM FOR THE ENVIRONMENTAL ACCEPTANCE TEST PROGRAM.
- SUBMIT THE JOINTLY AGREED TO LISTING OF HARDWARE ITEMS, TEST ENVIRONMENT(S), TEST LEVEL(S) AND TEST DURATIONS TO THE PROGRAM MANAGERS FOR APPROVAL.

NASA-JSC ENVIRONMENTAL ACCEPTANCE TEST REVIEW TEAM

OBJECTIVES:

- TO REVIEW ALL HARDWARE ITEMS FOR WHICH THERE IS A CERTIFICATION REQUIREMENT FOR COMPLIANCE TO SP-T-0023 AND ESTABLISH A LISTING OF HARDWARE ITEMS FOR THE ENVIRONMENTAL ACCEPTANCE TEST PROGRAM.

TEAM RESPONSIBILITIES:

- EVALUATE THE HARDWARE CONSTRUCTION AND ESTABLISH THE TYPE(S) OF POSSIBLE MANUFACTURING FLAWS AND WORKMANSHIP DEFECTS WHICH COULD RESULT FROM THE HARDWARE'S CONSTRUCTION.
- EVALUATE THE MANUFACTURING PROCESSES AND ESTABLISH THE TYPE(S) OF POSSIBLE MANUFACTURING FLAWS AND WORKMANSHIP DEFECTS WHICH COULD RESULT FROM THE HARDWARE MANUFACTURING PROCESSES.
- DETERMINE FROM HARDWARE CONSTRUCTION AND MANUFACTURING PROCESSES, WHAT WOULD BE THE STANDARD INSPECTION WEAKNESS IN BEING ABLE TO INSPECT FOR PROCESS AND WORKMANSHIP ERRORS.

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REVIEW TEAM (CONT'D)

- ESTABLISH THE TYPE(S) OF ENVIRONMENTAL TEST(S) TO SUBJECT THE HARDWARE ITEMS TO.
- ESTABLISH THE TEST LEVELS IN COMPLIANCE TO THE REQUIREMENTS OF SPEC. SP-T-0023.
- ESTABLISH THE TEST DURATION IN COMPLIANCE WITH SPEC. SP-T-0023 OPERATING AND MONITORING REQUIREMENTS, AS WELL AS THE ENVIRONMENTAL STRESS EFFECTS ON DETECTING POSSIBLE DEFECTS IN THE HARDWARE.
- PRESENTING THE HARDWARE LISTING FOR THE SPACE SHUTTLE ENVIRONMENTAL ACCEPTANCE TEST PROGRAM TO THE PROGRAM MANAGER.

NASA-JSC ENVIRONMENTAL ACCEPTANCE TEST REVIEW TEAM (CONT'D)

● TEAM MEMBERS:

● THE TEAM MEMBERSHIP DISCIPLINES:

- ENVIRONMENTAL ACCEPTANCE TEST REQUIREMENTS AND OBJECTIVES
- MANUFACTURING PROCESSES
- IN-PROCESS-INSPECTION
- RELIABILITY AND QUALITY ASSURANCE
- THERMAL
- DYNAMICS
- SUB-SYSTEM MANAGER
- PROJECT ENGINEERING/MANUFACTURING AND TEST

NASA-JSC ENVIRONMENTAL ACCEPTANCE TEST REVIEW TEAM (CONT'D)

● TEAM MEMBERSHIP PARTICIPATION:

● FULL TIME MEMBERSHIP

MEMBERSHIP FROM THE FOLLOWING DISCIPLINES WILL SUPPORT THE TEAM ACTIVITIES FULL TIME IN THEIR RESPECTIVE DISCIPLINES.

- ENVIRONMENTAL ACCEPTANCE TEST REQUIREMENT AND OBJECTIVES
- MANUFACTURING PROCESSES
- IN-PROCESS-INSPECTION
- RELIABILITY AND QUALITY ASSURANCE

● PART TIME MEMBERSHIP

MEMBERSHIP FROM THE FOLLOWING DISCIPLINES WILL SUPPORT THE TEAM ACTIVITIES ON AN AS REQUIRED BASIS IN THEIR RESPECTIVE DISCIPLINES.

- THERMAL
- DYNAMICS
- SUB-SYSTEM MANAGER
- PROJECT ENGINEERING / MANUFACTURING AND TEST