

**Organizzazione di lancio**

**SIRIO/Delta e responsabilità**

# LAUNCH OPERATIONS

## NASA - KENNEDY SPACE CENTER PERFORMS:

- PROGRAM MANAGEMENT ACTIVITIES

IDENTIFYING ALL PROJECT REQUIREMENTS AT THE LAUNCH SITE AND ASSURING THESE ARE MET IN A TIMELY AND RESPONSIVE MANNER FOR LAUNCH VEHICLES AND SPACECRAFT.

- OPERATIONS – LAUNCH VEHICLES

PLANNING AND MANAGING LAUNCH SITE OPERATIONS, PROCEDURE REVIEW, TEST EVALUATION AND VERIFYING FUNCTIONAL PERFORMANCE OF HARDWARE AND SOFTWARE.

- OPERATIONS – SPACECRAFT

PLANNING, COORDINATION AND SCHEDULING OF SUPPORT AND INTEGRATED OPERATIONS. RANGE AND VEHICLE CONTRACTOR LIAISON. SAFETY REVIEW OF SYSTEMS AND PROCEDURES.

- INSTITUTIONAL ACTIVITIES

STAFF SUPPORT FOR PERSONNEL, FACILITIES, BUDGET ADMINISTRATIVE AND RELATED LOGISTICS DURING PLANNING AND OPERATIONAL PHASES.

# SPACECRAFT LAUNCH OPERATIONS

## NASA - KENNEDY SPACE CENTER PROVIDES:

### ● FACILITIES

LABORATORIES, OFFICES, CONTROL CENTER  
EXPLOSIVE SAFE AREAS  
LAUNCH COMPLEX

### ● EQUIPMENT

ANTENNAS AND DATA TRANSMISSION SYSTEMS  
COMMUNICATIONS AND TIMING  
ELECTRICAL POWER SYSTEMS  
ENVIRONMENTAL CONTROL SYSTEMS

### ● SERVICES AND SUPPLIES

GASES, PROPELLANTS, CHEMICALS  
INSTRUMENT CALIBRATION AND REPAIR  
PHOTOGRAPHY  
SHOPS  
VISITOR CONTROL  
SAFETY TRAINING AND SURVEILLANCE  
FIRE PROTECTION  
EMERGENCY MEDICAL ATTENTION  
LOCAL TRANSPORTATION FOR EQUIPMENT  
REPRODUCTION AND PRINTING  
OFFICE SUPPLIES  
MAIL SERVICE  
MATERIAL ANALYSIS  
RADIOGRAPHY  
CHEMICAL CLEANING  
RADIO FREQUENCY CONTROL AND ANALYSIS

# **SPACECRAFT AND SUPPORT OPERATIONS DIVISION, KSC**

- **RESPONSIBLE FOR SUPPORT, COORDINATION AND OPERATIONAL CONTROL OF ALL UNMANNED SPACECRAFT ACTIVITIES AT KSC**
  
- **RESPONSIBLE FOR PROVIDING SPACECRAFT USERS**
  - **FACILITIES**
  - **EQUIPMENT**
  - **SERVICES**
  - **SUPPLIES**

# LAUNCH SITE FACILITIES

- S/C LABORATORY
  - SPACECRAFT RECEIVING, ASSEMBLY, AND CHECKOUT
- SOLID PROPELLANT STORAGE AREA
  - APOGEE MOTOR X RAY, BUILDUP, AND CHECKOUT
- DELTA SPIN TEST FACILITY
  - APOGEE MOTOR INSTALLATION
  - HYDRAZINE LOADING
  - S/C ALIGNMENT CHECKS
  - THIRD STAGE/SPACECRAFT MATE
- LAUNCH COMPLEX 17
  - THIRD STAGE/SPACECRAFT MATE TO VEHICLE
  - FINAL SPACECRAFT CHECKOUT
  - SHF TESTING
  - LAUNCH

# SPACECRAFT LABORATORY

- KSC MAINTAINS FOUR SPACECRAFT CHECKOUT FACILITIES

- HANGAR S
- HANGAR AE
- BUILDING AM
- BUILDING AO

- HANGAR S TENTATIVELY SELECTED FOR USE AS SIRIO SPACECRAFT LABORATORY

# **SOLID PROPELLANT STORAGE AREA**

- **STORAGE MAGAZINES**
  - **ORDNANCE AND SOLID PROPELLANT MOTOR STORAGE**
  
- **MISSILE RESEARCH TEST BUILDING (MRTB)**
  - **RECEIVING INSPECTION**
  - **APOGEE MOTOR BUILDUP**
  
- **NONDESTRUCTIVE TEST LABORATORY (NDTL)**
  - **APOGEE MOTOR X-RAYING**
  
- **ELECTRICAL-MECHANICAL TESTING FACILITY (EMT)**
  - **ORDNANCE BRIDGEWIRE RESISTANCE CHECKS**
  - **SAFE AND ARM DEVICE CHECKOUT**

# DELTA SPIN TEST FACILITY

- **SPACECRAFT ACTIVITIES**
  - APOGEE MOTOR INSTALLATION
  - SPACECRAFT ALIGNMENT CHECKS
  - HYDRAZINE LOADING
  - HAZARDOUS SYSTEMS TESTS
  
- **LAUNCH VEHICLE ACTIVITIES**
  - THIRD STAGE BUILDUP
  - ATTACH FITTING INSTALLATION
  - TELEMETRY INSTALLATION
  - COMPOSITE ELECTRIC CHECKS
  - THIRD STAGE ORDNANCE INSTALLATION
  
- **JOINT LAUNCH VEHICLE/SPACECRAFT ACTIVITIES**
  - SPACECRAFT WEIGHING
  - THIRD STAGE/SPACECRAFT MATE
  - HANDLING CAN INSTALLATION



# LAUNCH COMPLEX 17

- **WHITE ROOM**

- **PROVIDES A CLEAN ENVIRONMENT FOR THE SPACECRAFT**
- **SIRIO ON-STAND FUNCTION TEST**
- **SHF EXPERIMENT TESTING**
- **SAFE-ARM DEVICE CHECKOUT**
- **MDA PURGE**
- **FLIGHT SIMULATION**

- **BLOCKHOUSE**

- **REMOTE SPACECRAFT STATUS MONITORING VIA UMBILICAL CONNECTION TO THE GANTRY FOR**
  - **HAZARDOUS OPERATION**
  - **BATTERY TRICKLE CHARGE**
  - **FINAL SPACECRAFT STATUS FOR LAUNCH**
  - **SAFE-ARM DEVICE ARMING**

# **ROLE OF KSC SPACECRAFT COORDINATOR**

## **ON ARRIVAL OF SPACECRAFT**

- **COORDINATES EQUIPMENT TRANSPORTATION & HANDLING**
- **HELPS YOU MOVE IN AND FIND THINGS**
- **BRIEFS YOU ON FACILITIES, RULES & REGS., ETC.**

## **AT THE SPACECRAFT LAB**

- **KEEPS FACILITIES OPERATIONAL**
- **SCHEDULES SUPPORT**
- **KEEPS YOU INFORMED OF CONDITIONS AFFECTING S/C OPS**
- **PROVIDES FOR ACCESS CONTROL**

## **AT HAZARDOUS OPERATIONS AREA**

- **SCHEDULES SAFETY SURVEYS & SURVEILLANCE**
- **SCHEDULES PROPELLANT, ETC., DELIVERIES AND SUPPORT**
- **SUPERVISES LAUNCH VEHICLE INTERFACE HARDWARE OPS**

# **SPACECRAFT COORDINATOR**

## **ON THE LAUNCH PAD**

- **SCHEDULES SAFER SERVICES**
- **COORDINATES LAUNCH VEHICLE SUPPORT**
- **MONITORS S/C TASKS**
- **NEGOTIATES WORK PLAN CHANGES, IF NEEDED**

## **DURING LAUNCH COUNTDOWN**

- **ACTS AS SPACECRAFT CONTROLLER IN B.H. TO CLEAR TASKS**
- **KEEPS YOU INFORMED ON VEHICLE STATUS**
- **REPORTS ON SPACECRAFT STATUS**
- **COORDINATES SUPPORT**
- **WORKS OUT RECYCLE PLANS, WHEN NEEDED**

# SIRIO/DELTA LAUNCH ORGANIZATION

