

MSFC SHE PROGRAM

Refresher Training

May 2002



The MSFC Safety, Health, and Environmental (SHE) Program consists of 5 Core Process Requirements (CPRs)

- **CPR 1: Management Commitment and Employee Involvement**
- **CPR 2: System And Worksite Hazard Analysis**
- **CPR 3: Hazard Prevention And Control**
- **CPR 4: Safety And Health Training**
- **CPR 5: Environmental**

MSFC SHE Program

NASA Agency Safety Initiative (ASI)

- ❑ NASA's program to improve safety and health programs across the agency.
- ❑ It includes the first four (4) MSFC CPRs.



MSFC SHE Program

- ❑ To provide employees with a safe and healthful workplace.
- ❑ To comply with State and Federal laws.
- ❑ To ensure the environment is not harmed by what we do at work.

CPR 1: Management Commitment & Employee Involvement

- ❑ **MSFC Management shows a strong commitment to the SHE Program by establishing SHE Policy, and striving to achieve SHE Goals.**

- ❑ **MSFC SHE Policies:**
 - **SAFETY:** MSFC will strive to prevent human injury and occupational illnesses, and ensure the safety of all operations and products.

 - **HEALTH:** MSFC will strive to promote and maintain the physical well-being of its employees.

 - **ENVIRONMENTAL:** MSFC will strive to protect, preserve, and enhance the quality of the environment while conducting its primary mission activities.

CPR 1: Management Commitment & Employee Involvement

- ❑ **Specific annual safety initiatives are published in the “MSFC Implementation Plan” each fiscal year.**

http://www1.msfc.nasa.gov/NEWMsfc/implem_plan02.pdf

- ❑ **MSFC has established a clear, simple safety goal for 2002:**

**Establish MSFC as Number One
in Safety Within NASA**

- ❑ **The MSFC Safety and Mission Success Metrics are:**

- Achieve a world-class lost-time injury rate of 0.1 or less, with an ultimate goal of 0
- Zero Type A or B mishaps in FY 2002
- Maintain a mission success rate of 100 percent
- All MSFC projects will complete safety reviews on time

CPR 1: Management Commitment & Employee Involvement

- ❑ **Each Directorate and Office also establishes and communicates safety goals for its organization, and develops action plans to reach those goals.**

Shuttle's Safety Goal: Fly Safely

- Implement SSME Block II Flights
 - Implement ET Friction Stir Welding
 - Reduce Risk through IES on RSRM
 - Conduct Monthly Walk-Throughs
 - Conduct Monthly Safety Meetings
 - Maintain Contractor Safety Performance Records that Exceed Industry Standards
- ❑ **Employee Performance Plans contain Individual Employee Requirements chosen to help the organization meet their SHE goals.**



CPR 1: Management Commitment & Employee Involvement

How Management Shows Commitment to SHE Program:

- ❑ Recognizes and Supports SHE Requirements in Their Area
- ❑ Adheres to NASA, OSHA, and Industry Standards for Hazard Control
- ❑ Provides Funds and Resources for SHE Improvements
- ❑ Encourages and Allows Time for Employee Involvement
- ❑ Defines Employee SHE Responsibilities
- ❑ Provides Access to References and Professional Staff for SHE Information
- ❑ Provides SHE Database Support – SSWP, HAZTRAK, MSDS, Chemical Inventory
- ❑ Defines Methods for Hazard Identification
- ❑ Makes Personal Protective Equipment (PPE) and SHE Training Available
- ❑ Conducts Monthly Safety Meetings and Walk-Through Inspections
- ❑ Acts on Safety Committees and Involves Committees in SHE Program Review
- ❑ Encourages Open SHE Communication (i.e., Encourages Close Call Reporting)
- ❑ Acts to Improve Trends Identified by SHE Performance Metrics

CPR 1: Management Commitment & Employee Involvement

How MSFC Employees Can Be Involved in SHE Program:

- ❑ Participate In and Provide Input During Supervisor Worksite Inspections (New set of eyes may see hazards not noted in previous inspections)
- ❑ Generate and Help Keep Procedures and JHAs Up To Date (All hazards identified and controls included)
- ❑ Participate in Safety Meetings, Present Topics, and Provide Input
- ❑ Act as Safety Committee Member
- ❑ Use 'Stop Work Authority' for Unsafe Circumstances
- ❑ Review and Comment on SHE Directives Routed to All on Inside Marshall
- ❑ Make Entries to the Inventory of Hazardous Operations (IHOPS) Database
- ❑ Discuss Concerns with Supervisors, Building Managers, and/or Committees
- ❑ Use the Safety Concerns Reporting System (SCRS) or NASA Safety Reporting System (NSRS) to Suggest SHE Program Improvements (Both systems may be used anonymously)
- ❑ Participate in Special SHE Activities – Safety Day, Fitness Walk, Safety Bowl
- ❑ If Necessary, Contact OSHA about Safety Concerns, Without Fear of Reprisal

CPR 1: Management Commitment & Employee Involvement

All MSFC Organizations Have A Role In the SHE Program:

☐ Safety and Mission Assurance Directorate

- Provides Industrial Safety Inspections, MSFC Project Support, Safety Specialist expertise in fire, explosives, and facility issue safety
- Maintains SCRS, IHOPS, SSWP, and HAZTRAK databases, publishes Safety Bulletins, maintains Safety Documentation and Procedures

☐ Center Operations Directorate

- Provides online access to MSDSs, Environmental Engineering programs, Occupational Medicine and Environmental Health programs
- Maintains Chemical Inventory, tracks and performs Preventive Maintenance, maintains Facilities and Equipment in safe condition

☐ Customer and Employee Relations Directorate

- Provides Training and Support, and SHE communications and publication assistance – ETV, Safety Bulletins on Inside Marshall, training opportunities

☐ Each MSFC Organization

- Implements SHE requirements within their organization, flows SHE requirements down to contractors, monitors employees and work areas

☐ Safety and Facility points of contacts are assigned to each MSFC area and Directorate, and are listed on the SCRS web page

CPR 1: Management Commitment & Employee Involvement

Safety, Health, and Environmental (SHE) Committees and Teams:

- ❑ Include all levels of MSFC civil service and contractor Management, Employees, and Unions.**
- ❑ Are involved in SHE program development and review.**
- ❑ Examples of MSFC SHE Committees and their contributions:**
 - MSAT – Marshall Safety and Health Action Team – Representatives of all Directorates and on-site Contractors; Safety Bowl, and “I Think Safe Backdrop Badges”
 - CSF – Contractor Safety Forum – MSFC Contractors; Self-Assessments
 - Task-Specific – Radiation Safety Committee, Pollution Prevention
 - Group-Specific – Safety Toolbox meetings, Pre-Move reviews
 - SHE Committee – Equal Representation of Managers and Employees
 - Marshall Team Meeting – Direct Reports and Contractor Management, Top-Level SHE problem resolution

CPR 2 - System and Worksite Hazard Analysis

☐ Hazards Are Identified In All MSFC Work Areas

- Worksite Inspections, Supervisor Walk-Throughs, Job Hazard Analysis, Safety Assessments, Readiness Reviews, and/or employee observations.

☐ Identified Hazards Are Tracked to Closure

- Hazards and safety concerns are entered in the appropriate database for tracking and measurement, such as the Supervisor Safety Web Page (SSWP), HAZTRAK, or SCRS.
- Inspection findings are posted in work areas until resolved.
- Databases monitor time limits for responding to the submitter.
- Hazard elimination or control is verified during follow-up inspections.

☐ Operations Are Assessed for Hazards, and Controls Are Established

- All MSFC operations are assessed for accident risks.
- All Hazardous Operations (e.g., extreme temperatures, high pressure, explosives handling, hazardous chemicals, etc.) are entered into the Inventory of Hazardous Operations (IHOPS) database.
- Significant hazards and appropriate controls are documented - Job Hazard Analysis (JHA), Hazardous Operation Procedure (HOP), Operational Hazard Analysis (OHA).

☐ Hazard Assessments and Safety Documentation Are Reviewed Annually

CPR 2 - System and Worksite Hazard Analysis

- ❑ **Safety Concerns, Mishaps and Close Calls are Investigated**
 - Investigation team makeup depends on severity of mishap.
 - All employees are eligible to be appointed to an investigation team.
 - Root Causes are identified, tracked to resolution, and trends are analyzed.
- ❑ **Safety Concerns, Mishaps and Close Calls are Reported and Publicized**
 - Employees use the NASA Safety Reporting System (NSRS), Safety Concerns Reporting System (SCRS), and Flash Reports.
 - Lessons learned are publicized in Safety Meetings, Safety Bulletins, Safety Moments, SHE Highlights, and on the SHE Website.
- ❑ **Significant Items and Trends in Mishaps and Injuries Are Identified**
 - Significant items and trends, which identify our most common injury types, are tracked as required by OSHA requirements.
 - Data is compiled by the MSFC Industrial Safety Department, and presented to Center Management.
 - Safety performance metrics are posted on the SHE Website.
- ❑ **Open Safety and Facility Items Are Viewed Using SHE Website ‘Safety Search’**
- ❑ **Hazard Analysis Processes Benefit All Employees**
 - Helps reduce actual occurrence of mishaps, and saves MSFC employees from injury.
 - Saves MSFC project dollars, and allows them to be spent on actual work.

CPR 3 - Hazard Prevention and Control

Prevention and Control Process Begins With Hazard Identification:

□ Potential Hazards Are Identified, Control Measures Are Documented

- Worksite Inspections, Job Hazard Analyses, Operating Procedures, and Test Readiness Reviews

□ Choice of Hazard Correction Methods, From Most to Least Effective

1. Eliminate the hazard
2. Design for minimum hazard
3. Incorporate safety devices
4. Provide caution and warning devices
5. Develop administrative procedures and training

□ MSFC Directives Address Devices, Procedures, and Training

- MWI 8715.2 – Lockout/Tagout Program
- MWI 8715.3 – Hazard Warning Signs and Barricades
- MWI 8715.4 – Personal Protective Equipment (PPE)
- MPG 1840.2 – Hazard Communication Program
- MPD 1840.3 – MSFC Respiratory Protection Program
- MPD 1840.1 – MSFC Environmental Health Program
- MPG 1810.1 – MSFC Occupational Medicine
- MPG 1800.1 – Bloodborne Pathogens
- MPD 1840.2 – MSFC Hearing Conservation Program

CPR 3 - Hazard Prevention and Control

Facility and Equipment Maintenance Programs Uphold SHE Standards:

- ❑ **Facilities and Equipment Are Maintained To Preserve a Safe and Healthful Work Environment for MSFC Employees**
 - Office computers, copiers, and fax machines have operator's manuals, and support personnel are identified.
 - Government Vehicles receive regular scheduled maintenance by the GSA.
 - Each MSFC building is evaluated at least once every 5 years, to identify Facility Engineering Department (FED) equipment that needs periodic maintenance.
 - FED equipment (such as air handlers, compressors, heat pumps, etc.) is evaluated to establish appropriate schedules for preventive maintenance or predictive testing.
 - Laboratory equipment has instruction manuals, and many items are regularly tested, inspected, and adjusted under the MSFC Calibration Program.
 - Cranes, hoists, and other lifting devices receive scheduled maintenance, inspection, and testing by the FED.
- ❑ **Maintenance for Some Equipment Items is Critical To Assure Safety**
 - Critical maintenance items are identified by their facility and equipment owner.
 - Work on these items is tracked to ensure maintenance schedules are followed.
- ❑ **Information on Hazard Control, Pre-Use Inspection, and Safe Work Practices is Provided in Operating Procedures, Manuals, JHAs, and Other Work Instructions**

CPR 3 - Hazard Prevention and Control

Planning and Training Drive Emergency Preparedness Activities:

- ❑ **The “MSFC Emergency Plan” (MPG 1040.3) describes our process for planning and preparation, response, mitigation, and recovery from emergencies. It tells what to do during specific emergency events:**
 - Severe Weather, Ice, Snow, and Flooding
 - Actual or Impending Fire or Explosion, and Personnel Injury or Accident
 - Environmental Hazardous Material, Radiological, Unexploded Ordnance, and Air Pollution
 - Civil Disturbance, Workplace Violence, Bomb Threats, and Suspicious Packages
 - Emergencies Affecting Normal MSFC Operating Hours, and Off-Center Emergencies
- ❑ **In case of emergency, always call ‘911’. Don’t hang up until the dispatcher does.**
- ❑ **The MSFC Emergency Operations Center is located in Building 4202.**
- ❑ **Every floor of every building has a posted Emergency/Evacuation Plan to identify emergency exits, fire extinguishers, and fire pulls.**
- ❑ **Severe Weather and Fire Emergency Drills are conducted annually at MSFC.**
- ❑ **Emergency Plans for hazardous facilities/operations are prepared by the Manager, provided to the MSFC Emergency Preparedness Officer, discussed with affected personnel, and exercised periodically. Employees are notified of annual plan evaluations and updates.**

CPR 3 - Hazard Prevention and Control

Emergency Medical Care Program for All On-Site Personnel:

- ❑ Emergency medical care is provided for *all* on-site personnel.**
- ❑ Our Emergency Medical Care Program is described in MPG 1810.1, “MSFC Occupational Medicine”.**
- ❑ Always inform your supervisor when injured at work, or treated for an occupational illness (e.g., hearing loss, ergonomic related injuries).**
- ❑ Personnel trained in CPR, First Aid, and Medical Care are available at all times by calling ‘911’.**
- ❑ Emergency services are provided by the Redstone Fire Department, HEMSI and Protective Services.**
- ❑ Flash Reports on serious injuries are submitted by Supervisors:**
 - Call 4-HELP, and choose Option 0, to submit by telephone.**
 - Submit electronically from the SHE Website.**

CPR 3 - Hazard Prevention and Control

MSFC Occupational Medicine and Environmental Health Services (OMEHS) Program Guards Your Health:

- ❑ **The OMEHS program provides preventive medical care, emergency medical care, industrial hygiene, respiratory protection, and health physics services.**
- ❑ **Voluntary annual health maintenance physical examinations are available to all civil service employees.**
- ❑ **Monitoring examinations are given to MSFC civil service and selected on-site contractor employees who work in areas where potential health hazards exist.**
- ❑ **Environmental Health services include hazard communication, hearing conservation, radiation/laser safety, bloodborne pathogens, respiratory protection, and ergonomics.**
- ❑ **Environmental health personnel monitor MSFC work areas for conditions or potential hazards that may affect employee health.**
- ❑ **Ergonomic Self-Assessments are available on the Web, or may be scheduled with our Environmental Health personnel.**
- ❑ **Employees ask Health Questions through ‘Dr. Know’, or directly to the OMEHS staff.**
- ❑ **Our OMEHS Program is described in MPG 1810.1, “MSFC Occupational Medicine”, and MPD 1840.1, “MSFC Environmental Health Program”.**

CPR 4 – Safety and Health Training

Employee SHE Knowledge and Skills Support Protective Programs:

- ❑ **Employees who have the basic skills needed to identify and control hazards, and the specialized skills to perform their jobs in a safe manner, make MSFC's SHE Program work effectively.**
- ❑ **MSFC 'New Employee Orientation' class includes introductory safety training.**
- ❑ **Employees are Trained to Identify, Understand, and Prevent Hazards.**
 - All employees receive on-the-job safety training from their supervisors.
 - All employees complete a basic safety course that includes Hazard Identification and Safety Requirements (such as 'Marshall Safety and Health 2000', or the Contractor Safety Forum '2001 Safety Seminar').
 - Special training and Personnel Certification requirements for higher hazard operations and equipment are met by all affected employees.
 - Individual training plans identify training required for employees to safely accomplish their jobs, and are updated to reflect changes in facilities or processes.
 - Employees are encouraged to request any special safety training they need.
 - SHE Training is provided by knowledgeable people from within NASA, or by outside trainers.
 - Training records are maintained in accordance with MPG 3410.1.

CPR 4 – Safety and Health Training

Supervisor and Manager Knowledge Guides the SHE Program:

❑ Supervisors Are Trained to Control Hazards

- 'New Supervisor Orientation' course teaches their specific role and responsibilities in the MSFC SHE Program.
- A 'Supervisor Safety' course covers general safety and hazard control (such as the 'DuPont Safety' course).
- Building Managers & Assistant Building Managers complete the 'Building Manager Training Program' when appointed, and refresher training every 3 years.

❑ Managers Learn to Understand Safety, Health, & Environmental Issues

- 'New Supervisor Orientation' course teaches their specific role and responsibilities in the MSFC SHE Program.
- A 'Manager Safety' course covers general safety, hazard control, and approaches to SHE management (such as the 'DuPont Safety' course).

❑ Supervisors and Managers Pass Their Knowledge On to Employees

❑ All Personnel Contribute Knowledge to SHE Program Improvements

CPR 4 – Safety and Health Training

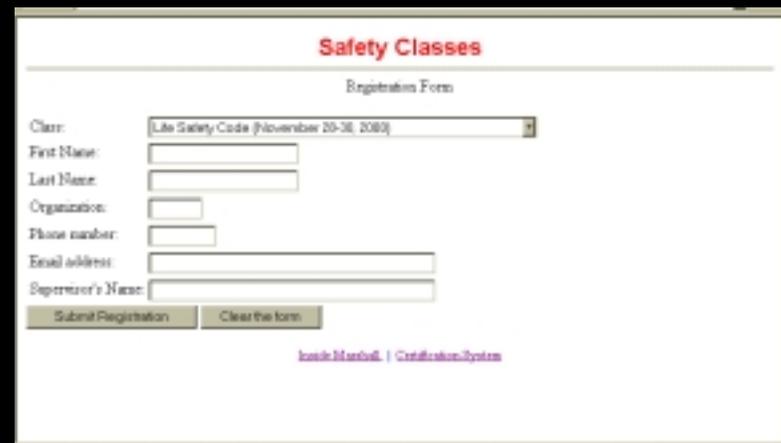
SHE Training Requirements Match Employee Job Assignments:

❑ Depending on an employee's responsibilities, special safety training and certification may be required (see MWI 3410.1).

- Employees may help determine when personnel certification is required.
- Safety and skills certification records are kept in the CERTRAK database.
- CERTRAK provides notification when recertification is necessary.

❑ At a minimum, supervisors train each new employee on:

- Safety rules applicable to their worksite.
- Safe operation of equipment.
- How to identify and report a hazard in the work environment.
- JHA content, and procedural controls.
- MSDS data for chemicals to be used.
- PPE requirements.
- Emergency procedures for the Center, and for their specific work area.
- How to obtain medical services.



CPR 5 - Environmental Compliance

SHE Program Seeks to Protect the World We Live and Work In:

- ❑ Establish and maintain a process to procure green chemicals as required by Executive Order 13101, “Greening the Government through Waste Prevention, Recycling, and Federal Acquisition”, for current hazardous substance usage.
- ❑ Establish and maintain procedures for reducing, reusing, and recycling hazardous and toxic substances prior to disposal, as required by the Pollution Prevention Act.
- ❑ Establish and maintain procedures for minimizing entry of storm water pollution into the environment, through indoor storage, engineering controls, inspections, et cetera.
- ❑ Establish and maintain procedures for ensuring that equipment and processes are permitted by the Clean Air and Clean Water Acts, and that inspections, record-keeping, and tests are performed.
- ❑ Establish and maintain procedures for disposing of hazardous waste, controlled waste, and/or wastewater, in accordance with MSFC permits.

NOTE: Contact the Environmental Engineering Department for more information.

What is the PEP Survey?

- ❑ **The Performance Evaluation Profile (PEP) Survey is a NASA-wide survey used to assess the effectiveness of each Center's and participating Contractor's safety and health program.**
- ❑ **The 2002 PEP Survey has fewer questions than in the past.**
- ❑ **A PEP Survey Report will be generated from the tabulated survey results, to help us decide how to improve our SHE Program.**
- ❑ **A high score (4.0 and above, on a scale of 1 to 5) indicates that a particular area of the safety and health program is effective.**
- ❑ **The PEP Survey Report will provide suggestions for improvement in areas that score below 3.0, or below a score chosen by the Center.**

How to take the PEP Survey

- ❑ Mark the number that best represents your answer. For example, if the answer is ‘yes’ – mark 5.
- ❑ If the question obviously does not apply to you (i.e., it concerns respirator fit checks, but you don’t use a respirator), answer ‘N/A’.
- ❑ ‘Don’t Know’ counts as a ‘1’. Only use this when the question applies to you, and you actually have no idea. If you have general knowledge about the subject, and know where to find more information, then reflect that.
- ❑ If the question is a general statement about a SHE element that you have not been involved with personally, but you know that it’s available (i.e., SCRS or Mishap Boards) – choose the number that best represents that element.
- ❑ “Strongly Agree” is always to the right, and “Strongly Disagree” to the left.
- ❑ Numbers assigned to your answer may change order depending on how the question is asked.
 - A sample question: “My manager *does not* support MSFC SHE goals.”
 - In this case, ‘5’ stands for “Strongly Disagree” and is on the left, and ‘1’ stands for “Strongly Agree” and is on the right.

How we did on the 2001 PEP Survey

Occupational Safety Employee - Management for Marshall Space Flight Center

Nasa Organization: Safety and Mission Assurance

Organization: Rolled up to Nasa Organization Level

Division: Rolled up to Nasa Organization Level

Period: May, 2001

