National Aeronautics and
Space Administration
Office of the Administrator
Washington, DC 20546-0001

Feb. 22, 2002

Mr. Thomas K. Marple
Directorate of Compliance Programs
Office of Federal Agency Programs
Room N-3112
200 Constitution Avenue, N.W.
Washington, DC 20010

Dear Mr. Marple:

The Annual Report of the National Aeronautics and Space Administration Occupational Safety and Health Program, is enclosed. The report follows the guidelines set forth in your November 5, 2001 memorandum entitled "Agency Fiscal Year 2001 Annual Report on Occupational Safety and Health".

This report meets the extension date of March 1, 2002 granted to NASA on January 28, 2002 because of the significant postal delay in receiving the original request for report from the U.S. Department of Labor.

Questions concerning NASA's Safety and Health Program should be directed to William S. Barry, M.D., Manager of the Agency's Occupational Health Program at (321) 867-6341 or Mr. James D. Lloyd, Director Safety and Risk Management Division, at (202) 358-0557.

Cordially,

Catherine M. Angotti, R.D., L.D
Director, Occupational Health

Enclosure

ANNUAL OCCUPATIONAL SAFETY AND HEALTH REPORT

OF THE

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

Reporting Period Fiscal Year: 2001

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Designated Agency Safety and Health Official

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ANNUAL REPORT ON OCCUPATIONAL SAFETY AND HEALTH

Fiscal Year:	2001
Agency Name:	National Aeronautics and Space Administration
Component Name:	Headquarters
Address:	300 E. Street SW, Washington, D.C. 20546
Number of employees:	18,143 Full time permanent and part time permanent on duty
Responsible Individual:	Richard S. Williams, M.D., FACS
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1.a. Use agency injury/illness data to display the annual statistics for fatalities and lost time disabilities:

NASA had no work-related fatalities during FY 2001.

NASA continues to enjoy one of the lowest injury/illness rates in the Federal sector. The Federal safety and health program performance data indicates that NASA consistently rates within the best top three Federal Agencies with respect to best lost-time injury rate performance.

Specific NASA performance metrics for FY 2001 reflects a compensable lost time injury/illness frequency rate of 0.41 per 100 employees.

The trend for NASA Workers' Compensation cost has also been relatively stable. For the past six years those costs have been as follows:

FY 1996 $6.8M	FY 1998 $7.3M	FY 2000 $6.4M
FY 1997 $7.1M	FY 1999 $6.2M	FY 2001 $7.2M

The increase in cost for FY 2001 was attributable to costs associated with a single fatality case related to the crash of a commercial airliner, which occurred in 1977, but only adjudicated as a worker's compensation case in FY 2001.

Significant case tracking and case management efforts continued into FY 2001. NASA continues to use the Veterans Administration Workers' Compensation Data Management System and the Department of Labor Agency Query System to provide real time OWCP claims status to NASA Center personnel involved with claims management. Special case management focus is placed on Centers with high Workers' Compensation costs.

Several NASA field centers reviewed long-term cases at regional OWCP offices to identify potential candidates for return to work, to help return employees to gainful employment and to reduce compensation costs to the government. This concentrated review process has gradually begun to pay off for both NASA and the employee by moving several individuals from the long-term roles and returning them to modified light duty work.

1.b. Use Agency data to display the most recent OWCP charge back and COP costs:

Item 1.a above delineates OWCP costs. Continuation of pay (COP) costs for NASA are as follows:

FY	COP Cases	COP Costs
FY 1998	95	$101,850
FY 1999	58	$97,217
FY 2000	74	$116,245
FY 2001	69	$109,078

1.c. Use Agency accident or incident reporting to explain any significant trends or major causes or sources of fatalities and lost time disabilities, which occurred last year:

Unsafe human acts continue to be the primary cause of lost time injuries. The definitive groupings for reportable injuries and illnesses at NASA include the following:

1. Slips, trips, and falls 50%
2. Lifting and moving operations 13%
3. Other miscellaneous 13% *
4. Vehicle Mishap Injuries 10%
5. Bumped into/struck by 7%
6. Cuts to hands 7%

*Note this includes diverse activity such as failure to use safety harness, carpal tunnel syndrome, and sports injury.

2. Describe safety and occupational health program accomplishments and initiatives implemented last fiscal year to control the trends and major causes of fatalities and lost time disabilities, and to improve your overall safety and occupational health program and to work toward the Federal Worker 2000 Presidential Initiative goals:

The best response to this objective is reflected in NASA's most important core value of safety.

> *"In conducting our work, we are guided at all times by four central values (safety, people, excellence, integrity). The first of these is safety. NASA is committed to preserving the safety of the public, our astronauts, our employees, and our high-value assets. Every program described in this Plan (NASA Strategic Plan) has been reviewed with an eye toward further steps that we can take to ensure the safety of the outcome and all those who work so diligently for its success."*

Each individual Center's commitment to health and safety is guided by this core strategic value.

At NASA Headquarters, the Administrator and Associate Administrators (the core senior mangers of the agency) signed a Joint Proclamation, pledging their commitment to safety. Employees of HQ NASA also signed a proclamation, pledging their commitment to safety. NASA Headquarters has taken the lead role in emergency preparedness. Headquarters has also developed a noteworthy collateral duty safety program.

Glenn Research Center developed an awareness campaign to ensure that all workers (supervisors, employees, and contractors) understand their responsibility to the Glenn Safety Program and the responsibility to make resources available for it. In addition, a survey was developed for supervisors to use in assessing their

employees safety training needs and long-term training requirements. Glenn is also focusing on the recognition of employee contributions to the safety program, and is planning to develop two new programs to address Center needs.

Dryden Flight Research Center established a program to "Make Dryden Safer" and has sent 41 employees and managers to the 2001 National VPP Conference. This marks a significant commitment of resources in pursuit of an objective of improving the safety culture of the Center. Dryden has also completed a Center-wide hazardous operations and medical surveillance survey, and rolled out a new heat stress program.

Ames Research Center has continued and put new emphasis on their Safety Accountability Program and hopes to receive the VPP Star this year.

Kennedy Space Center has also selected the OSHA VPP Star criteria as the benchmark for safety and health program improvement. Kennedy plans to apply for the VPP Star program in September of this year, and has created new processes for employee involvement and hazard reporting. This includes the appointment of a Safety Ombudsman, and the formation of a Safety & Health Labor Management Committee, to allow employees another opportunity to influence Center safety and health programs.

Langley Research Center, the first NASA Center to achieve VPP certification, assures that no employee is permitted to obtain unescorted access until they have completed new employee orientation safety training. Langley also provides training to their supervisors and managers, to assure that they understand their safety and health responsibilities. Supervisors and managers performance appraisals are based in part on their safety and health performance. Working safely is a condition of employment at Langley.

Stennis Space Center provided DuPont's Safety Observation Training Program (STOP) to all Center supervisors. The program provides a systematic way for supervisors to perform safety observations of their work areas, incorporates safety into everyday activities, and develops safety awareness and self-auditing skills. Stennis also newly implemented a process that assures pre-design surveys occur on outside service contracts, to eliminate safety and health hazards early in the contract procurement process. Stennis has formed a Certification Board to evaluate the Center's safety and health training and certification programs. The board makes ongoing comprehensive improvements. A safety management council was formed to review each incident occurring at the Center. Also committees were formed to assess the effectiveness of the Center's Ergonomics and Hearing Conservation programs.

Marshall Space Flight Center implemented a new web-based reporting system for documenting hazardous operations conducted on the Center. The system requires identification of risk level and hazard assessment documentation (approved by the Safety and Health office) before authorizing the work to be done. Marshall is pursuing VPP certification and has currently trained all civil servant personnel and 4,200 contractor personnel. Other preparations for VPP include implementation of a contractor safety and health program self-evaluation and award system (based on

VPP fundamentals) where contractors can grade themselves, based on their level of accomplishment in each of the VPP elements. Marshall intends to become a world-class leader in safety and health, with the goal of becoming #1 in safety and health within NASA. Besides VPP certification, new initiatives include benchmarking with others to improve their health and safety programs, implementation of a behavioral based safety program, and an increased emphasis on employee involvement and safety and health training for managers and employees.

Goddard Space Flight Center (GSFC) publishes safety bulletins in various medias to enhance awareness regarding all facets of on and off duty safety and health. Goddard piloted a comprehensive industrial hygiene baseline survey in two directorates, so that supervisors could better understand their inherent work process hazards. Plans are in place to complete a survey of the remainder of the center. By hosting health expositions, GSFC increased skin cancer screenings and employee participation in wellness programs by more than 25%.

Johnson Space Center, also VPP certified, leads the Agency in number of Automatic External Defibrillators (AED) per person. Approximately 50 AEDs were placed across the center and field sites during the past year. In each location employees were trained to American Heart Association and Center guidelines. Over 300-team members site wide are certified to use AEDs. A large publicity campaign was conducted to inform the Johnson Space Center community of the placement of the AEDs in the workplace. During the past year, an AED was successfully used at the Center. The Center boasts a Unified Safety and Health Awareness Campaign (USHAC) that was established to standardize the monthly health and safety awareness across the center. The USHAC committee, co-chaired by Health and Safety, develops an annual schedule, based on input from the center, NASA Headquarters and National H&S safety awareness campaigns. The response to this campaign has been very good. Johnson Space Center also co-sponsored the annual "Houston Dermatological Society" free skin cancer screening. Local area dermatologists provided several hundred free skin exams. The event was a success. The Center has also created a cross-center team to help implement a Behavior Based Safety (BBS) program. JSC is a candidate for BBS due to high level of manager/employee interest and the clustering of at-risk behaviors. Finally, Johnson Space Center will be hosting a Voluntary Protection Program (VPP) Conference April 16-18, 2002. The conference is designed exclusively for NASA Centers and their contractors who are seeking or retaining VPP STAR status. The conference will provide a forum for existing STAR sites to learn best practices for retaining and improving their Safety and Health programs. Regional VPP Managers and top safety leaders throughout the country will be on hand to share their expertise. Booths and workshops will cover such important things as the application process, shared experiences, and questions about OSHA's on-site inspection.

NASA's core values are also reflected in our participation in the **Goals of the "Federal Worker 2000" Presidential Initiative:**

Goal 1. Reduce the Total Case Rate (TCR) for most Federal agencies by 3% per year, while at the same time increasing the timeliness of reporting new

injuries and illnesses to OWCP for each agency by 5 percentage points per year.

As one of the safer federal agencies, the baseline accident rate, as determined by the Occupational Safety and Health Administration (OSHA), of 1.27 for 1997 for the Agency requires NASA to maintain at least that goal through FY 2004. NASA has surpassed the maintenance goal of 1.27 for FY 2001 with a rate of 0.75. The goal for all Federal Agencies (without the U.S. Postal Service) rate for FY 2001 is 3.86. A comparison of the timeliness of reporting new injuries and illness from the baseline was not available at the time of this report.

Goal 2. Reduce the lost time case rate (LTCR) for those worksites with the highest Federal lost time case rate by 10% per year.

As NASA's OSHA established rate of 1.27 was far better, representing many fewer accidents than the 2.0 action level for compliance with this Federal Worker 2000 goal, NASA would only have to maintain a rate not to exceed 1.27 through year 2004, and Goal 2 does not apply. NASA seeks to reduce accidents to zero.

Goal 3. Reduce the lost production day rate (LPDR) (lost days due to injury or illness per 100 employees) by 2% per year.

The lost production day rate (LPDR) for NASA for the baseline fiscal year (F.Y. 2000) was determined to be 9.6 days per 100 employees. The most current data available from the Office of Workers' Compensation Programs (OWCP) for the period through the second quarter of FY 2001 shows NASA's rate of 8.6 days per 100 employees. This is 10.6% lower than the baseline and far exceeds the goal to reduce rates by 2%.

NASA has improved Safety and Health programs by implementing the leadership principles of the NASA Administrator. He is the motivational leader and spokesperson for the agency safety program as he enlists all to follow safe operations. The NASA Administrator has carried the message of world-class safety performance to all levels of NASA, its contractors, Congress, our international partners and in his outreach activities. He has made it clear that NASA will not compromise the safety of the public, its astronauts and pilots, the NASA workforce, or high value equipment and property.

NASA continued implementation of an even more vigorous safety program at all sites to enhance even further the theme of line management accountability for safety and health. The NASA Agency Safety Initiative (ASI) was continued in FY 2001 with the goal of moving NASA from the among the best Federal Agency safety and health program to a world-class safety and health program. Senior management aggressively pursued the ASI in FY 2001 with unprecedented leadership involvement.

The NASA Administrator in continuing the ASI initiative he started in safety in February 1999 added a Health Initiative in FY 2001. The Health and Safety Initiative emphasized topics pertinent to the employees, and goals of NASA. The Agency Administrator

communicated to employees in the latest Strategic Plan for NASA that health and safety are NASA's highest core values.

In January 2001, the Administrator requested each Enterprise to provide a schedule detailing how each NASA Center would achieve or maintain the required third party certification or the Department of Labor's Voluntary Protection Program by September 30, 2002. This landmark direction also tasked the action to "have safety expectations clearly specified in the performance plans of your direct reports and every manager in your organization in all future performance plans. After the next performance review, provide the Associate Deputy Administrator with verification that this action has been completed."

In March 2001, the Administrator reported on the progress of our safety goals. He indicated that workplace injuries had dropped substantially and the results of the Safety Performance Evaluation Profile survey, indicated that the NASA culture was changing for the better. He urged all to ask questions and to get answers to preclude mishaps to help assure mission success starts with safety. The Administrator continued his commitment to safety and employee health at a senior level off-site at the Wye River, Maryland executive retreat in June 2001. He reviewed the Agency's status relative to safety and identified steps to make the workplace safer. The senior management team focused, in particular, on the need to relieve the undue stresses on our employees that affect safety, productivity, and efficiency.

A NASA agency–wide safety survey was conducted at all NASA field centers during FY 2001. The survey used the NASA-developed Performance Evaluation Profile (PEP) survey system to evaluate the Occupational Safety and Health programs and system safety programs within the agency. Both civil service and contractor personnel participated in the fiscal year 2001 Occupational Safety and Health surveys, with 7,382 employee and 837 manager responses received. The system safety survey involved 1665 NASA employees and 234 NASA managers.

NASA compared the results from the past three years (FY '99 through FY '01) PEP Occupational Safety and Health Surveys against four core process elements: management leadership and employee participation, work site hazard analysis, hazard prevention and control, and safety and health training. The survey disclosed that all NASA Field Centers are diligently working to improve their safety and health programs, with FY 2001 results significantly higher in Voluntary Protection Program (VPP) criteria than in the two previous surveys in all categories. This accomplishment demonstrates a significant three-year history of continuous safety and health program improvement. All NASA Centers are at or significantly above the level of a "Basic Safety Program" and have the scores in the range to pursue a VPP certification effort.

The fiscal year 2001 surveys were compared to actual mishap historical data for each Center. This analysis showed that, for most Centers, the PEP survey results and the mishaps ratings closely agreed. This means that the increased safety and health knowledge level is having the desired effect of reduced mishap rates.

At the beginning of FY2001, the Administrator personally discussed health and safety topics with senior management. Through eighteen (18) discussion topics, the Administrator voiced his personal concerns for maintaining successful programs in that area and challenges his management team to conduct vulnerability assessments in

their facilities and programs for further improvement. Following these meetings, Center management shared the information with employees at their Centers and identified activities at the Center level in support of these topics.

The Office of Chief Health and Medical Officer, reporting directly to the Administrator, was created in FY2000 to emphasize the importance of health and safety at NASA.

The FY 2001 campaign for world-class safety continued the theme titled "Mission success starts with safety" and remains focused around the primary elements listed below.

- Management commitment
- Safety and health policy
- Planning and performance expectations/measurements
- Safety and health training, education and awareness
- Program assessment methodology
- Functional management reviews
- External outreach
- System/equipment safety upgrades

To date, two NASA Centers, the Langley Research Center, and the Johnson Space Center have achieved OSHA VPP Star Certification status. The White Sands Test Facility has been recommended for VPP Star status within the reporting period. All other Space Centers have aggressively pursued preliminary OSHA VPP Star certification activity in FY 2001; and will continue the action necessary to achieve certification.

The NASA Solar Safe Program continued throughout FY 2001. Centers adjusted work schedules to minimize the amount of sun exposure that employees receive, full-body skin examinations were offered, and training concerning the hazards of sun exposure was continued.

An Occupational Health Conference on "Risk Assessment and Management" was held in February of 2001, in Galveston Texas. During FY 2001, NASA held a Health Physics Conference in Annapolis, Maryland, with representatives attending from all Centers.

While Centers and emergency personnel have had defibrillators, NASA has made a significant effort to distribute Automated External Defibrillators (AED). In FY2000 NASA had 49 AEDs and in FY2001 that number more than doubled to 104 AEDs.

NASA has deployed Automatic External Defibrillators (AEDs) at all NASA Centers, and personnel have been trained to use the AEDs. Since deploying them, they've been used several times and at least one life was saved.

NASA continued an aggressive audit and self-evaluation process during FY 2001. The course of action included reviews of seven NASA Centers for occupational health and safety (in addition to Operational Engineering Board reviews), Center VPP preparation reviews, and industry best practices. This included such guidelines as the Joint Commission for Accreditation of Healthcare Organizations (JCAHO), the Accreditation

Association of Ambulatory Health Care (AAAHC), and the National Committee for Quality Assurance (NCQA).

The writing of NPG 1800.x NASA Occupational Health Program Procedures was completed and is due to be released this year. This major undertaking produced Center-wide guidance for Occupational Health Programs on a broad range of health-related topic areas, including:

- Knowledge Management
- Education and Training of Health Professionals
- Health Promotion and Wellness
- Quality Assurance
- Records Management
- Clinical Services
- Physical Examinations
- Emergency Services
- Infection Control Program
- Environmental Health
- Employee Assistance Program
- Worker's Compensation Program

NASA continued contractor medical evacuation services for its employees who are stationed in remote locations and foreign countries. The purpose of the service is to quickly bring any NASA employees who are stationed at remote locations, and in urgent need of medical attention, to a location in the United States or Europe where quality medical care can be provided.

NASA has continued its Inter-Agency agreement with the Food and Drug Administration (FDA) to facilitate expert examination and calibration of all medical X-ray machines. The agreement has proven to be a mutually beneficial one where NASA benefits from the FDA's expertise.

Agency health and safety programs extend to all NASA Centers. All Centers established or continued their own Center-level web sites during FY 2001. The Centers' websites have been augmented by Center-specific health and safety information. The sites provide health-related topics, links, and contain useful databases.

NASA created and Aviation Safety board to better assess NASA's aviation status and critical safety concerns.

Another major policy enhancement was the NASA Contractor Safety Requirements with a Risk-based Acquisition Management initiative to re-focus on risk as a core acquisition concern. This initiative is being continued with a training effort for NASA and contractor personnel, consultation to NASA projects and programs and updated policy and guidance through revisions to several of NASA's internal processes and guidelines.

2a. Successes and failures resulting from implementation of initiatives:

NASA's Occupational Health Internet web site is an online training and informational resource that is available to all Agency employees and contractor employees. The "hits" on the site have steadily increased over the last few years, and have gone from 3,423 in FY 1998, to 63,867 hits in FY 1999 to 134,236 hits in FY 2000 to 221,622 page hits in

2001. The web site was also enhanced with an occupational health discussion board for physicians, industrial hygienists, and wellness professionals to coordinate ideas and solutions to problems.

The NASA Safety Training Center (NSTC) presented 49,286 instructor based classroom hours of training to 4,004 students in 58 safety and health courses in FY 2001. NASA employees were also engaged in taking 70 on-line computer-based safety and mission assurance courses. NASA had 728 computer-based training course graduates for FY 2001. Five online safety courses were added to enhance safety awareness for all. These courses included "Manage to be Safe," Fundamental Safety," "Operational Safely," "System Safety," and "Office Safety."

In FY 2000, NASA launched an Agency-wide program called "Solar Safe," to reduce the risk of employee skin cancer from exposure to the sun. The program addressed the increased potential for employees to fall victim to skin cancer from solar exposure because of the Agency's sun-belt locations. The program has provided early intervention in several cases. Early intervention is the key to successful treatment of some skin cancers. Besides awareness, the program emphasized administrative control of exposures, protective clothing and sunscreens. Centers were provided with UV detection cards for each NASA employee. New ways to screen and evaluate lesions were explored in FY 2000. In recognition of our activities, the Federal Council on Skin Cancer Prevention gave an award to NASA December 2001.

Several years ago, the Agency took note of warnings by experts in terrorism of possible future domestic attacks. At that point, Agency-wide training was developed and provided to healthcare professionals on biological, chemical and nuclear weapons of mass destruction. NASA's Safety, Occupational Health Program, and Center Emergency Preparedness Coordinators worked together to increase awareness of both conventional and bioterrorism/weapons of mass destruction threats to the United States.

NASA responded to the terrorist acts of September 11th, and the release of anthrax in federal facilities in a number of ways. Security was immediately heightened, and refresher training was provided via videoconference to all NASA Centers. Additionally, NASA procured and deployed seven Ruggedized Advanced Pathogen Identification Device (RAPID) units; and trained personnel in its use. NASA provided preliminary PPE guidance, then closely monitored the CDC and NIOSH guidance in determining the best personal protective equipment for sampling, potential anthrax contaminations, and clean up operations. The NASA Occupational Health Website was supplemented to include information on respiratory protection requirements and familiarization in the types and appropriate uses for respirators.

3. Annual OSH plans, goals and objectives, and significant OSH initiatives planned for the coming year(s):

Examples of the specific actions being taken as a result of the continuing NASA Health and Safety Initiative includes the following actions:

The occupational health and safety audit and self-evaluation process will continue in FY 2002. Evaluations are planned for seven NASA Centers for compliance with OSHA, NASA, and industry best practice standards. As noted above, best practice standards include the Joint Commission for Accreditation of Healthcare Organizations (JCAHO), the

Accreditation Association of Ambulatory Health Care (AAAHC), and the National Committee for Quality Assurance (NCQA). The occupational health program evaluation tools provide metrics on individual Centers and overall Agency compliance with occupational health and safety requirements. This information will be used to identify health and safety trends, as well as to identify areas of need.

A NASA wide occupational safety and health director's conference is planned for March of FY 2002. It will include discussions of Center Occupational Health Program evaluations and the schedule for visiting and evaluating Centers. It will also include discussion on bioterrorism and mass casualty aspects, demonstration of the "RAPID" system, explanation of the new occupational health handbook, overviews on medical and environmental health aspects, Center VPP qualifications, the new web-based mishap and injury tracking system, the effects and aftermath of September 11th on the Agency and Centers, and a presentation on the health and safety programs from each of the Centers.

All NASA Centers are progressing toward a goal of having all medical and nursing personnel achieve Advanced Cardiac Life Support (ACLS) certification. This advancement will continue in FY 2002.

A NASA-wide Occupational Health Conference will be held in July, in Washington D.C. The conference will include professional development courses for occupational health physicians, and industrial hygienists, discipline-specific breakout sessions and generally emulate the successful FY 2001 Galveston Conference format.

A draft of the NASA Occupational Health Program Handbook was completed in FY2001, and will be made available to all NASA personnel in FY 2002. It is designed to help promote and maintain the good health of employees, ensure safe work environments, assess program performance, assure compliance with regulations, and provide best practices guidance. The Handbook provides guidance to NASA occupational health professionals in twelve major occupational health and safety topic areas.

An Occupational Health Program Desktop Resources section of the NASA Occupational Health Program web site was begun in FY2001. It will be completed in FY2002, will complement the Occupational Health Program Handbook, and provide detailed information on the latest available reference materials supporting topics in the handbook. This arrangement will encourage inter-Center communications and information exchange.

Each NASA Center will continue to have a Safety and Health Program Office responsible for supporting line management with their safety responsibilities. Those offices will conduct independent reviews of Center operations to assure compliance with all elements of 29 CFR Part 1960. Each Center's process for inspection and abatement will be reviewed during NASA Headquarters program reviews. This inspection process, aimed at identifying both unsafe conditions and unsafe acts is the primary point of emphasis to address the first four types of injuries where identified in paragraph 1c.

Early involvement of the safety and health staffs in design and procurement activities, will continue as a key risk management focus area at each NASA site. This effort enables identification of potential safety and health hazards at the earliest possible stage. Center safety and health professionals serve in a review and approval capacity for purchase of

hazardous materials, hazardous equipment, personal protective equipment, and other key purchases, which are key to controlling hazards.

Each NASA Center will continue to emphasize the need to report unsafe conditions and correct them. To augment those avenues of reporting for any employee wishing to remain anonymous, NASA continues to operate an independent and anonymous NASA Safety Reporting System (NSRS). This effort also includes a strong effort to insure reporting of "close calls" to identify problems needing correction.

An awareness campaign for the confidential NASA Safety Reporting System (NSRS) will continue to ensure the reporting process has been directly advertised to every NASA civil service employee and the leading NASA contractors.

Close Call Reporting will continue to be emphasized. The Agency deems close call programs as critical for proper trend analysis and assessing the work environment for the existence of mishap potential. The reporting of close calls by all NASA civil service employees and contractor personnel is considered mandatory.

NASA Mishap Reporting and Investigating Procedures and Guidelines will be employed to increase emphasis and analysis of root causes in all mishaps and close calls.

Analysis of the cause of mishaps (accidents) within NASA is accomplished via the mishap identification process. NASA has promulgated mishap investigation policies which require specific investigation ranging from the supervisors report of injury listing specific recommendations to prevent re-occurrence, to full mishap investigation boards for the incidents with actual or potential for serious injury or property damage. Those investigation efforts coupled with the inspection activities mentioned above constitute the Agencies primary approach for addressing the causes of injuries and the controlling recurrence.

Injury and illness data represent primary metrics used by NASA management to assess and manage performance. While the safety performance of each NASA Center continues to represent best in class within the Federal sector, the NASA Administrator has set achieving "world class safety" as one of his key goals and is using the mishap rate to gauge progress.

NASA continues to have as its goal, to have a zero lost time injury rate for its employees. The lost time injury and illness rates have and continue to, serve as one of the top management's evaluation metrics. NASA will use the standard metrics for evaluation of its field Centers including lost time injury and illness rates, frequency of major mishaps, Workers' Compensation rates for each location, etc. Each year safety performance goals are established for each Center and performance goals for FY2002 will also be established. Center performance against those goals as well as Center-to-Center comparisons will continue to be rolled up into an Annual Report given to NASA Senior Management and to the NASA Health Council.

Injury/illness rates have historically been very low. These rates do not suffice as a proactive measure of safety performance. NASA developed a revised senior management performance review process which extends beyond the injury and illness statistics and which better represents the risk management requirements for Agency,

program and project management. The new system is geared more to the maintenance of a safety and health program that meets the core requirements as defined by OSHA:

- Management commitment and employee involvement
- Work-site hazard analysis
- Hazard prevention and controls
- Safety and health training

NASA has conducted an extensive safety and health policy updating process over the past five years. NASA reviews each NASA Center on its performance in both safety and health training. These reviews include both an annual self-assessment and NASA Headquarters reviews of the Center safety and health training programs.

In addition, this past year at Senior Management Council, Human Exploration and Development of Space Meetings, and weekly staff meetings, the NASA Administrator continued to assure all that safety is NASA's number one priority and to provide definitive agency safety guidance to all.

NASA has continued with an aggressive safety and health training program utilizing a multi-media approach including:

On-site Instructor Based Courses- The local safety and health professionals at each Center present courses to on-site personnel covering the broad range of topics required by OSHA (such as confined space entry, lock-out/tag-out, blood borne pathogens, hearing protection, respiratory protection, etc.).

NASA Safety Training Center Courses- Each year NASA invests close to $1,000,000 through this Center located at Johnson Space Center for course development and deployment to the NASA Centers. Over 4,000 personnel have attended instructor based safety training presented by the NASA Safety Training Center (NSTC). The NSTC has a course catalogue that identifies 58 safety and health instructor based courses that can be given Agency-wide.

NASA Safety and Mission Assurance (SMA) and the Chief Health and Medical Office will continue to provide web-based training for all Agency and support contractor managers, program directors, and employees. In FY 2001, over 40,000 NASA employees and contractors registered as having taken web based training programs through the Site for On Line Learning (SOLAR).

NASA's web sites will continue to make safety and health information easily available to all. NASA employees now have even better access to regulatory requirements, NASA policy documents covering safety and health programs, training materials, etc.

Special training contracts – each year NASA identifies specific courses needed Agency wide and contracts for that training. For example this past fiscal year NASA provided Indoor Air Quality, and Laser Safety Officer Training to NASA Center personnel. This will continue in FY 2002.

OSHA Voluntary Protection Program STAR certification continues to be an area of emphasis and goal for NASA Centers to achieve. In addition to NASA's Langley Research Center (the first Federal facility to achieve VPP STAR status) achieving their

Star certification in FY 98, NASA's Johnson Space Center achieved that status in FY 99. In FY 2001, the White Sands Test Facility was recommended for VPP Star Status. All other NASA Centers are currently planning on entering the VPP program with certification or application by the end of FY2002.

For the past five years NASA has sponsored a "safety awareness day" each year at all NASA Centers. The day (or week in some cases) has been set-aside for supervisors and employees to dwell on safety training or other safety and health topics concerning the workplace, operations, and flight. This will continue.

NASA will continue Federal interagency agreements for support of NASA programs including the Veterans Administration (Workers' Compensation tracking system), Food and Drug Administration (safety surveys of diagnostic x-ray equipment), GSA (development of web based training programs), etc. Use of subject matter experts from other Federal Agencies has proven to be effective and cost saving.

NASA is confident that by sustaining the efforts and attention we have devoted towards mishap prevention this past year, NASA will move its position as one of the best in the federal sector, to one of the best in the world.