



Stennis Space Center Safety, Medical and Environmental Health Overview

NASA Safety Directors Meeting
March 3, 2005

Mike Rewis
Office of Safety and Mission Assurance
Stennis Space Center



Topics

- **Safety Program Element Status**
 - Management Commitment & Employee Involvement
 - Worksite Hazard Analysis
 - Hazard Prevention & Control
 - Training
- **Medical and Environmental Health Status**
 - Medical
 - Industrial Hygiene
 - Health Physics



Management Commitment & Employee Involvement

- **Safety Councils**
 - **Integrated Management Council (formerly Safety Management Council)**
 - **Chaired by the Center Director and has membership consisting of the General managers of all our on-site support contractors.**
 - **Meets monthly to share the corrective actions for all our respective incidents/close calls. They are reviewed for broader application within each of our contractors and NASA organizations. These are also distributed to line management in each of our attending organizations for broader distribution.**
 - **Safety Performance Highlight: recognizing a individual or team's safety performance**
 - **Special topics provide detailed look at area of emphasis.**
 - **Significant incidents, special safety initiatives and other activities such as our Safety Day.**



Management Commitment & Employee Involvement

- **Safety Councils**
 - **Safety and Health Council**
 - Chartered to provide a opportunity for free safety and health dialogue between SSC organizations
 - Comprised by NASA, Residents Agencies, and Contractor Leadership
 - Focus on facility discrepancies, timely safety information, fire safety, and communication of pertinent safety information, and training
 - In existence for since 1989
 - <http://osma.ssc.nasa.gov/>



Management Commitment & Employee Involvement

- **Safety Councils**
 - **Employee's Safety Council**
 - Chartered to provide the employee an opportunity to make an impact in site safety
 - Comprised by NASA and Contractor employees (mostly from a non-safety background)
 - Focus on whatever suits them. Past successes have been a safety video, and the share the road signs
 - Around for a little over a year
 - <http://stars.ssc.nasa.gov/>



Management Commitment & Employee Involvement

Resident Agency Safety Audit Program

- SSC on-site/resident agencies' safety programs are evaluated to 29 CFR 1960 (to assure regulations/laws are fully implemented, managed, monitored, and in compliance.)
- Observations are tracked to closure
- NAVO and NRL in last quarter of 2004, both organization looked good, made correction actions on both suggestions and findings very quickly
- NAVO staff addresses ASORE and AFLOAT safety with well trained talented staff (2 folks helping 1000); NRL also well organized with staff of one for 250 personnel
- EPA, NDBC, and NMF up next (March to May 2005)



Management Commitment & Employee Involvement

- VPP Activity (FOS Activity)
 - Develop initiative that mirrors VPP guidelines and submit VPP STAR status application process to Region IV OSHA Office.
 - Develop fourth-phase behavior-based (Employee Safety Participation or ESP) safety/health training
 - Saturate employees, supervisors and managers with VPP information, questions on-site review team may ask, and ensure understanding of this program at all levels of the organization.
 - Continue formal JHA program for routine tasks (5 JHA completed per month in each shop area, to cover PM/CM)
 - Establish formal “ZAP” employee behavioral based safety recognition program to replace all existing programs



Management Commitment & Employee Involvement

- Contractor Benchmarking
 - Safety-*Continue* to emphasize safety for all people at all NASA work places, with a continued focus on contractor safety. Ensure that each site maintains a dynamic, continuously improving contractor safety process for all prime contractors and their sub-contractors. Continue benchmarking the evolution of industry better practice, and use available tools like, but not limited to: specific contractual language, general contract conditions, performance measures and trends, recognition, and Experience Modification Rate.” **We will...**
 - Already a piece of Acquisition Planning/ Management
 - NAICS (SIC), Injury Illness Rates, mishap information requested as part of past performance
 - EPA, OSHA records of inspections out of compliance conditions
 - EMF requested as part of the recent Test Operations Contract recomplete
 - Previous VPP certification history



Management Commitment & Employee Involvement

- Contractor Benchmarking
 - Contractor Surveillance
 - Experience modification factors (Mod)
 - Rated accounts with favorable loss experience receive an experience modification factor of less than 1.00.
 - FOS currently has an experience modification factor of 0.68. (FY2003 =.74)
 - Award fee process
 - Teaming arrangements/committees
 - NASA Procurement/NASA OSMA teaming
 - NASA/Resident Agency/Contractor committees and councils
 - Local benchmarking extended to DuPont Delisle plant; Center Deputy Director recently spoke at their safety day
 - Site Safety Councils provide opportunity to learn from others (Resident Agencies, Contractors...)



Management Commitment & Employee Involvement

- Standards Realignment Initiative
 - Attempting to align SSC Safety Procedures with that of NASA HQ
 - Periodic meetings addressing the same
 - Coinciding with procedure approval cycle for recently revised Safety Manual
 - Not felt to be an issue, if the individual procedures (of which there are many) are separate and can be appropriately categorized to fit HQ standards
 - The hope is that for purposes of posting to our document repository (TechDoc), the manual can be posted as a whole



Management Commitment & Employee Involvement

Awareness Activities

- Safety Day 2004
 - 4 hour stand down
 - Guest speakers
 - Training classes
 - Well received affair by all
- Upcoming “Buckle Up Stennis” Campaign (May 23-27, 2005)
 - Brochures
 - Child Restraint Seat Inspections
 - Surveys
 - Rewards for compliance
 - Something new each day of the week
- SSC Safety and Health Newsletter
 - Quarterly since 1990
 - <http://osma.ssc.nasa.gov/>



Management Commitment & Employee Involvement

Awareness Activities (cont.)

- Orbiter
 - NASA Weekly with safety corner
 - <http://sscportal.ssc.nasa.gov/internal/orbiter/>
- Oasis
 - New NASA Quarterly
 - <http://www.nasa.gov/centers/stennis/home/index.html>
(Stennis News)
- The Stennis News
 - New monthly offering covering site
 - Developed in conjunction with local “fish wrap” the Sun Herald



Worksite Hazard Analysis

- Mishap Trending influencing mitigative efforts
 - Deer Strikes
 - Insect Bites
 - PPE awareness
 - Vehicular Safety
 - Back Safety
- Facility Inspection Database well populated
 - Collaborative effort on the part all SSC organizations
- Inspections performed by everyone - Center Director, NASA OSMA, NASA Contractors, Resident Agencies





Worksite Hazard Analysis

- New Facility Managers Program
 - “...serve as the point of contact for all activities that affect the building from both internal and external sources, and are responsible for the buildings emergency preparedness program. Facility Managers are responsible for monitoring safety and health and facility management issues for conventional facilities. ”
 - All Facilities have designated managers
 - Training provided
 - SSC Facility Manager Training and Orientation
 - Safety & Health Self-Inspection
 - Fire Protection and Inspection
 - Hazard Communication
 - Emergency Preparedness/Evacuation
 - Security
 - Environmental
 - Facility Maintenance and Repair
 - Mug shots/numbers at building entrances



Worksite Hazard Analysis

- New Facility Managers Program
 - Website with pertinent information including
 - Fire and Safety Inspection Records/Facility
 - Training
 - Procedures
 - Outages
 - MSDS
 - http://mssdiscovery.ssc.nasa.gov:7777/portal/page?_pageid=233,1,233_47513&_dad=portal&_schema=PORTAL



Worksite Hazard Analysis

- Transition to IRIS II
 - All Internet based nature has the POCs raving (approvingly), folks are in awe of what it can do
 - Good training has been administered
 - Greater numbers are supporting the program
 - Some issues exist about limited resources (“Send money for center specific changes.” “Why does FAA get 26 million and we get ...”) No direction given on Quality Assurance support...
 - Much effort to make the jump, the hope is that eventually it will reap the more benefits



SSC Team*
46 Days
Without A Lost -
Time Incident

Don't let an unsafe attitude
Put you in an unsafe position

Approximately 336,984 Hours Without a SSC Team* Lost Workday

Latest FY05 SSC Team* Close Call

A Close Call submitted by the NDE Lab in building 8101 states: Ancillary personnel from buildings 8100 and 8110 are taking a shortcut to reach the road on the other side, violating posted and barricaded radiation area. Occasionally Radiographic work is performed in barricaded area to the east behind building 8101. Failure to observe posted area could result in excessive exposure to radiation and injury.

Take away: Ignoring barricaded areas could cause personal injury.

Total FY 05 Team Lost Workday Cases 2

Resulting In 38 Lost Workdays (0.1 EP)

Safety Inspection Database Summary

Activity From 2/5/2005 to 2/11/2005

Response Time to Correct	Risk Assessment Code	Total Open Items	Items Opened	Items Closed
Immediate	1	0	0	0
Immediate To 24 Hours	2-5	0	0	0
24 Hours To 90 Days	6-10	592	20	7
90 Days (Minimum)	11-20	620	1	9















Integrated Management Council

Date: February 28
 Time: 2:00 to 3:30
 Location: Gainesville Room

Safety Training

Adult CPR Feb 24
 Hydrogen Safety Mar 8-9 17
 High Pressure System Safety Mar 29-30

Occupational Safety Metrics Trends

Metric	Civil Service	Contractor
Lost Time Injury Rate (LTIR) Zero or down is good	 Current LTIR: 1.36 1 lost time	 Current LTIR: 0
Lost Time Injury Severity Rate (LTISR) Zero or down is good	 Current LTISR: 1.36 1 lost workday	 Current LTISR: 9.32 27 lost workdays
Total Case Injury Rate (TCIR) Zero or down is good	Current TCIR: 2.71 1 lost time and 1 medical treatment injury	Current TCIR: 2.07 6 medical treatment injuries
Days Away From Work and Restricted Duty Case Injury Rate (DARCIR) Zero or down is good	Current DARCIR: 1.36	Current DARCIR: 0
Mishaps (Type A & B) Zero is good	 December Type A - 0 Type B - 0	 December Type A - 0 Type B - 0
Mishaps (Type C&D) Zero or down is good	  December Type C - 0 Type D - 0	  December Type C - 0 Type D - 0
Close Calls Up is good	 8 Close Calls reported in FY 05 December 04: 1 close call reported -NASA's ~ 3 per month	 28 Close Calls reported in FY 05 - December 04: 9 close calls reported Contractor's ~ 9 per month
Property Damage Zero or down is good	 December Property damage: \$0k	 December Property damage: \$2.1k Contractor's ~ 8k per month average

SSC Occupational Safety Metrics Details

Mishap Type	Civil Service	Contractor
A (FY 04/05) – Programmatic & Institutional B (FY 04/05) – Programmatic & Institutional	<ul style="list-style-type: none"> • FY 04 –Type A mishaps = 0 • FY 05 –Type A mishaps = 0 • FY 04 –Type B mishaps = 0 • FY 05 –Type B mishaps = 0 	<ul style="list-style-type: none"> • FY 04 –Type A mishaps = 0 • FY 05 –Type A mishaps = 0 • FY 04 –Type B mishaps = 1 SSME Flight Eng. 2052, low pressure fuel duct • FY 05 –Type B mishaps = 0
C (LTIR, LTISR), (DARCIR (December 04)	<ul style="list-style-type: none"> • LTIR = 1.36 (exceeds target) <ul style="list-style-type: none"> - December: 0 lost time case • LTISR = 1.36 (exceeds target) <ul style="list-style-type: none"> - December: 0 lost day • DARCIR = 1.36 <ul style="list-style-type: none"> - December: 0 lost time, 0 restricted duty cases 	<ul style="list-style-type: none"> • LTIR = 0 (within target) <ul style="list-style-type: none"> - December: 0 lost time cases • LTISR = 9.32 (within target) <ul style="list-style-type: none"> - December: 0 lost days • DARCIR = 0 <ul style="list-style-type: none"> - December: 0 lost times, 0 restricted duty cases
Non-fatal OSHA recordables (December 04)	<ul style="list-style-type: none"> • TCIR = 2.71 <ul style="list-style-type: none"> - December: 0 Type C & 0 Type D injuries 	<ul style="list-style-type: none"> • TCIR = 2.07 <ul style="list-style-type: none"> - December: 0 Type C & 0 Type D injuries
Close Calls (December 04)	<ul style="list-style-type: none"> • 8 Close Calls reported in FY 05 <ul style="list-style-type: none"> - December: 1 close call reported 	<ul style="list-style-type: none"> • 28 Close Calls reported in FY 05 <ul style="list-style-type: none"> - December: 9 close calls reported
Property Damage (December 04)	<ul style="list-style-type: none"> • December: \$ 0 property damage 	<ul style="list-style-type: none"> • December: \$ 2.1k property damage

Occupational Safety

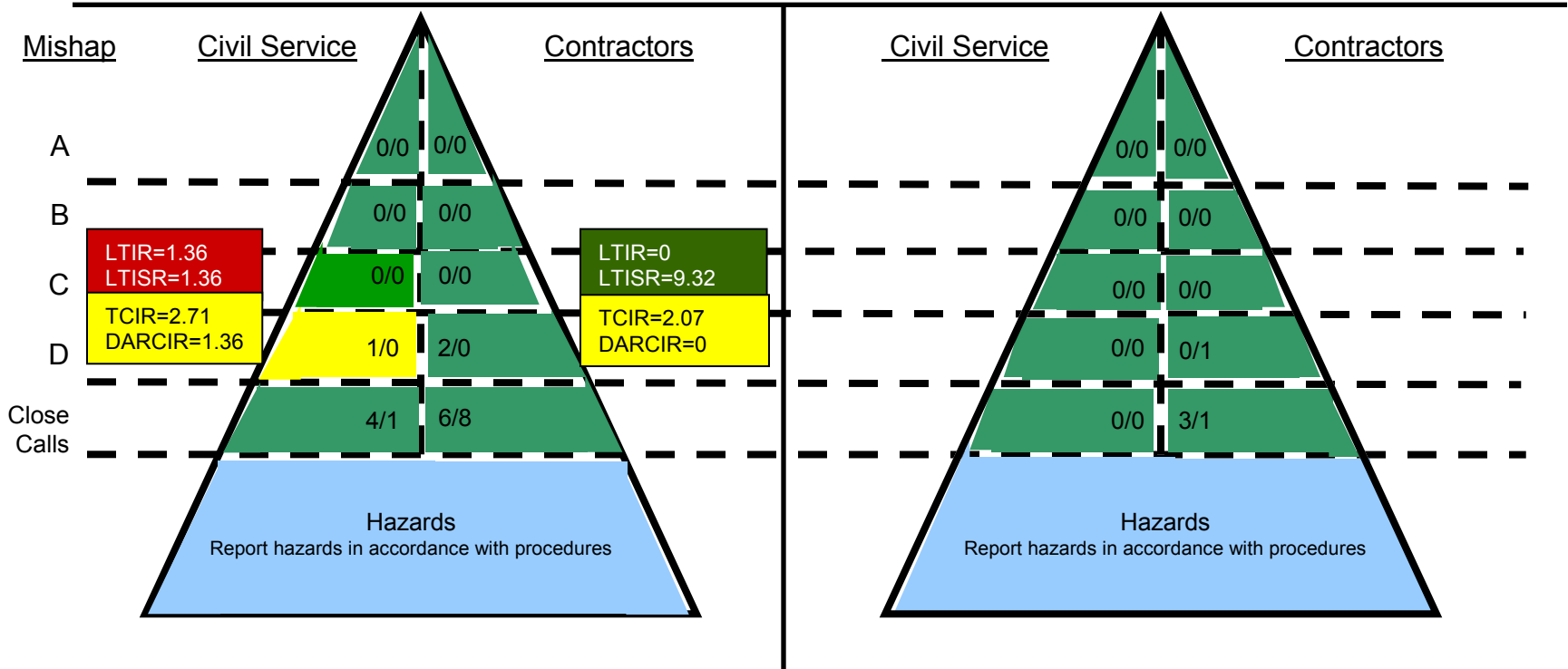
SSC Occupational Safety Metrics Summary for December

Injuries

Previous Month / Current Month

Property Damage

Previous Month / Current Month



Type	CIVIL SERVICE		CONTRACTORS	
	Current Month	FY 05	Current Month	FY 05
A	0	0	0	0
B	0	0	0	0
C	0	1	0	0
D	0	1	1	9
Close Calls	1	8	9	28

Definitions

LTIR: Lost Time Injury Rate (Type C)

LTISR: Lost Time Injury Severity Rate (Type C)

TCIR: Total Case Incident Rate (Type C & D)

DARCIR: Days Away from Work & Restricted Duty Case Incident Rate (All Type C, Type D - Restricted Duty Cases only)

Close Call – Unplanned event with potential for mishap

Hazard – Unsafe condition with potential for mishap or close call



Hazard Prevention and Control

- Emergency Preparedness Exercises performed
 - Mass Casualty exercise Bldg 8100
 - E-1 HAZMAT - Hydrogen Event in January 2005
 - Fire Department “Structural” exercises
 - Initiated to hone Fire Department skills, and improve procedures
 - monthly
- Facility maintenance issues
 - Electrical Issues
 - Signage



Hazard Prevention and Control





Hazard Prevention and Control





Training

- Risk Based Program covers NASA and NASA Contractors and is time and complexity contingent upon employee exposures, i.e. likelihood of encountering hazard.
- Stated goal is “to ensure personnel can perform their assigned functions and responsibilities in a safe and reliable manner while conforming to all defined requirements.”
- Training mandated by SPG 8715.1, I.1.4 “Safety & Health Training, Education, Certification”; as well as SCWI-3410-0003, “John C. Stennis Space Center Training/Certification Plan and Schedule Report



Training

- Training and Certification Plans in place for offices
- New Employee Briefings are conducted monthly and on an as needed basis
 - FOS conducts regularly scheduled monthly new employee (NASA and Contractors) briefings
 - NASA OSMA conducts periodic new employee briefings (NASA) on an as needed basis
- Test Area Safety Awareness Training is presented for all appropriate personnel



Medical

- NASA/SSC Standards developed and in review for Bloodborne Pathogens, Automated External Defibrillators, and Smoking
- Multiple types of exams for the same certification issue being addressed (stems from differing contractor cert requirements)
- Medical Surveillance program outstanding (per OCHMO)
- Clinic proactive in discerning noise related Hearing Standard Threshold Shifts
- SSC continues to work on getting Site Paramedic Support



Medical

- AED Program
 - Need was for sitewide policy, NASA Policy developed and in review
 - SSC AED Committee created
 - Led by chief medical officer, with NASA OSMA, Center Operations, Fire Chief membership with invites to Resident Agencies
 - Training program administered by the Fire Department with Medical Officer oversight
 - Needed to address growing site concern for proper site management of Automated External Defibrillators
 - Placement survey conducted – extended to test areas, security vehicles
 - Preferred model(s)
 - Training lay responders every 2 years - AHA
 - Maintenance issues – borne by FOS



Medical

SSC Automated External Defibrillators Locations on site

Building 1005 NRL

Building 1007 NRL

Building 1005 NRL

NRL Dive Team away kit

NRL Travel Team away kit

Building 1100 Site Clinic

Building 1200 Visitor's Center

Building 2119 Wellness Center

Building 2201 Fire Dept. Med-1

Building 2201 Fire Dept. Med-2

Building 2201 Fire Dept. Engine - 1

Building 2201 Fire Dept. Engine -3

Building 4010 E-Complex

Building 4220 B-Stand

Building 4122 A-2

Building 4120 A-1

Building 3203 NDBC First Floor

Building 3203 NDBC Third Floor

Building 3205 NDBC

Building 1105 EPA

Building 2101 USGS

Note: Two additional G-3 Powerhearts have been placed on order and should be received in about two weeks. These units will be placed on the Security Police Squad Cars.



Medical





Medical

- Child Care Facility
 - Existing lapse in Hep A,B vaccinations being corrected
 - New employees are immediately started on the series
 - All existing children and employees are current, save for one employee whose pregnancy delayed the start of inoculations until Feb 2005
- Wellness
 - Needed to enlarge free weight areas addressed
 - Well trained Staff
 - Commendation for best database for collecting information used at Wellness Center



Mission Success Starts With Safety

Medical





Mission Success Starts With Safety

Medical





Mission Success Starts With Safety

Medical





Environmental Health

- NASA/SSC Ergonomics standard developed and in review (per OCHMO)
- IH/EH report documentation, and communication was believed to be an “agency best practice.”
- Industrial Hygiene Committee
 - Originally chartered as Hearing Conservation Committee
 - Developed to address noise concerns for SSME public firings
 - 3 years old
 - Metamorphosed to IH committee, when advised to expand scope
 - Comprised by site organizations which have vested interest in IH (everyone); open to all
 - <http://sscportal.ssc.nasa.gov/sscohs/indust.html>



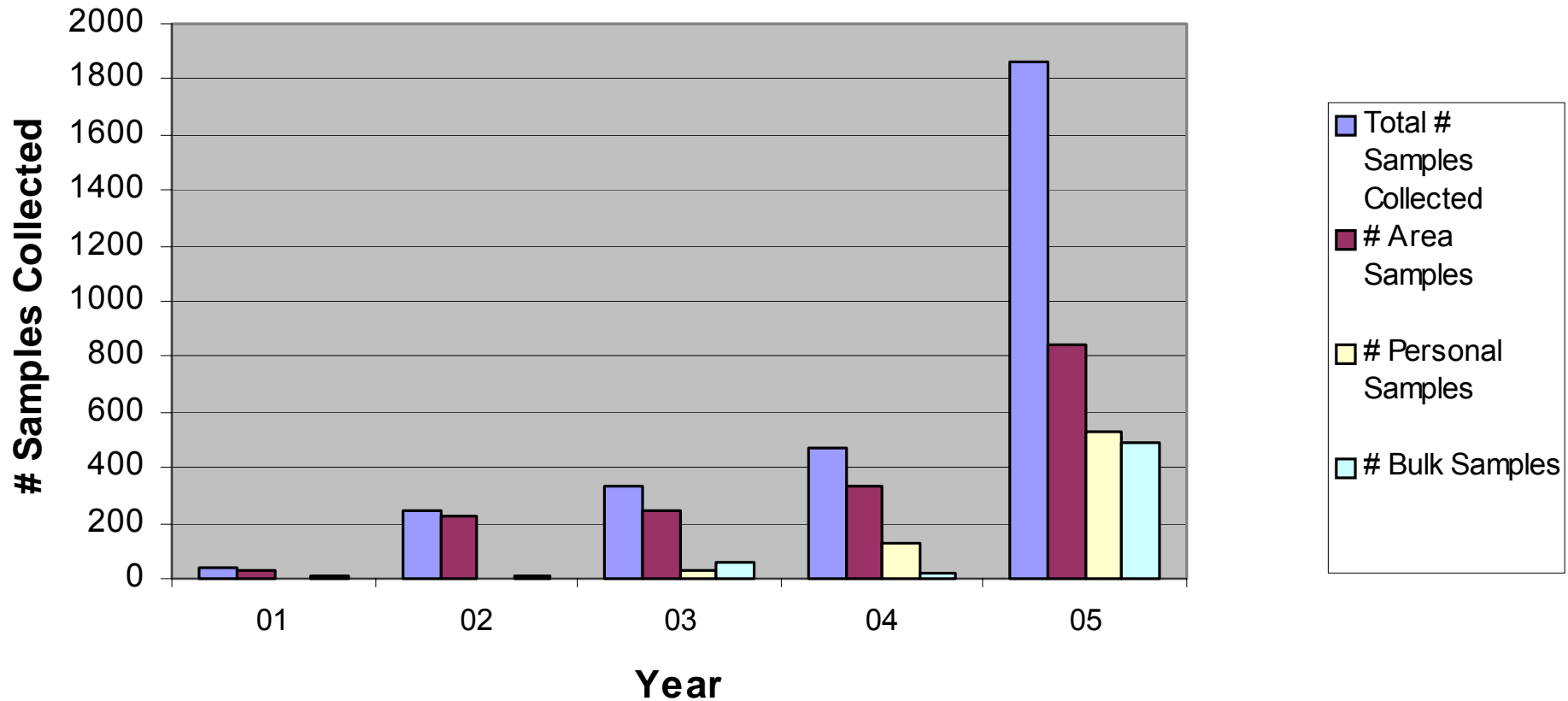
Environmental Health

- Industrial Hygiene Sampling
 - Baseline Safety/IH surveys complete
 - Team Approach with Safety and IH in concert
 - Chemical Exposure Assessments
 - Noise Conservation
 - Sampling Strategy in place
 - Samples being collected
 - No comprehensive asbestos survey, which tends to create moments of uncertainty with regard to uncharacterized ACM
 - At present, visual inspection following of full containment asbestos abatement jobs is performed by trained MSS field engineers *and IH staff* (per OCHMO). Standard in place.



Environmental Health

Sample Collection





Environmental Health

Doesn't
Smell Like
Asbestos





Environmental Health



John May takes noise sample



May checking for VOC



Calibrating air sampling equipment



Respirator fit testing



Tim Hallmark sets up for chemical exposure monitoring



Health Physics

- That “SSC has made significant improvements since last evaluation in the formation of Radiation Safety Committee.” The committee “offers great opportunity for all SSC residents to be brought under the umbrella...”
 - Formal quarterly meetings began about a year ago; had been meeting annually before that
 - Activity involves both Ionizing and NonIonizing Radiation
 - Comprised by site organizations which have vested interest in Radiation Safety, i.e. those that have radioactive sources, and or Lasers
 - Recent activity (yesterday) included presenting 2005 Radiation Safety Audit results
 - <http://sscportal.ssc.nasa.gov/sscohs/indust.html>



Health Physics

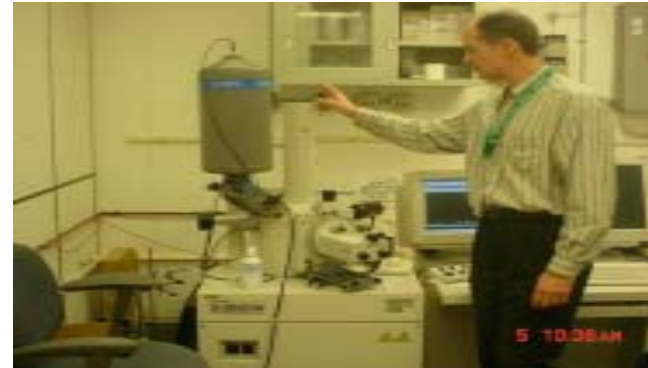
- Outer shipping containers were not being wipe tested per DOT requirements (though the sealed sources being transported inside were tested). In aftermath of audit, it has been discovered that since only sealed sources are being transported, we are in compliance.
- That antiquated clinic X-Ray equipment should be replaced (SSC had sought their assistance)
- A “solid radiation safety program” supported by a “staff is knowledgeable and competent”



Health Physics



Jim Everett setting up for an exposure



Rick Ross (AGT) and SEM

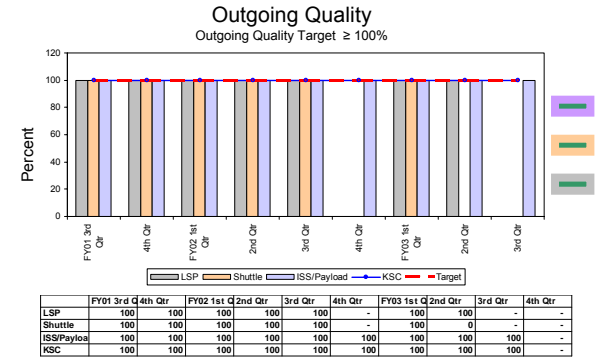
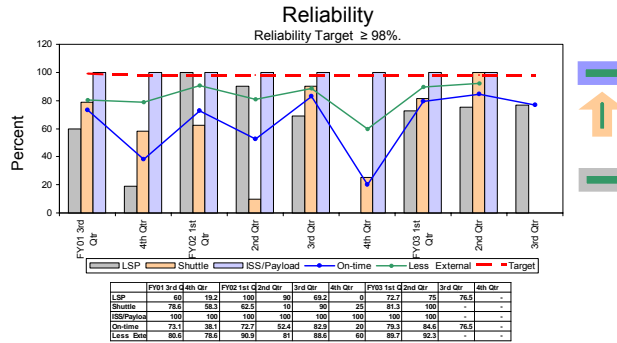
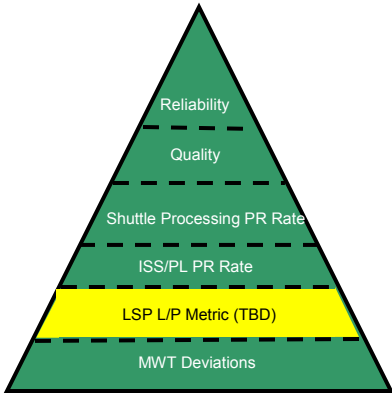


NRL Core Sampler



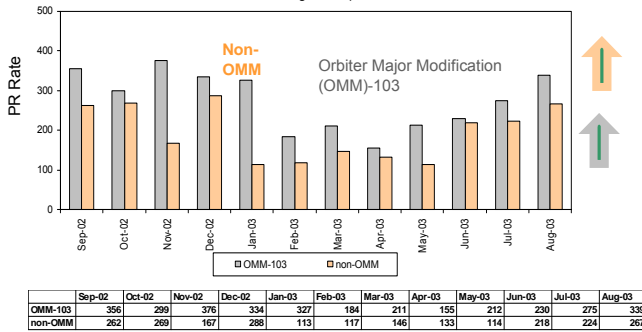
Questions

SSC Programmatic Safety Executive Summary (IN WORK)



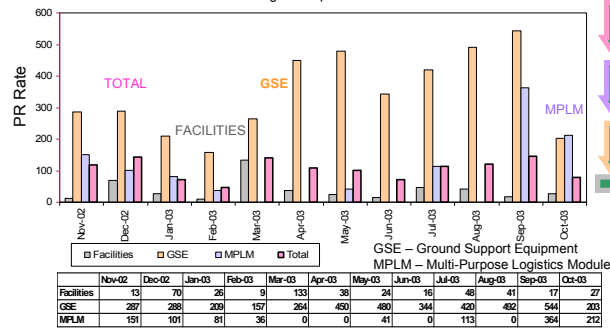
Shuttle Processing PR Rate

PR Rate target = Report all Problems



ISS Payload Processing PR Rate

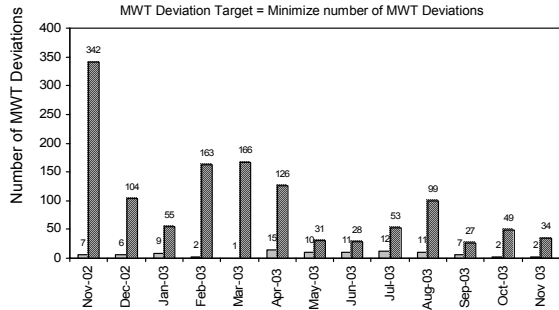
PR Rate Target = Report all Problems



Launch Services Program (LSP) Metrics
TBD
(LSP Metric under review by LSP Management for submittal to KSC Safety Office)

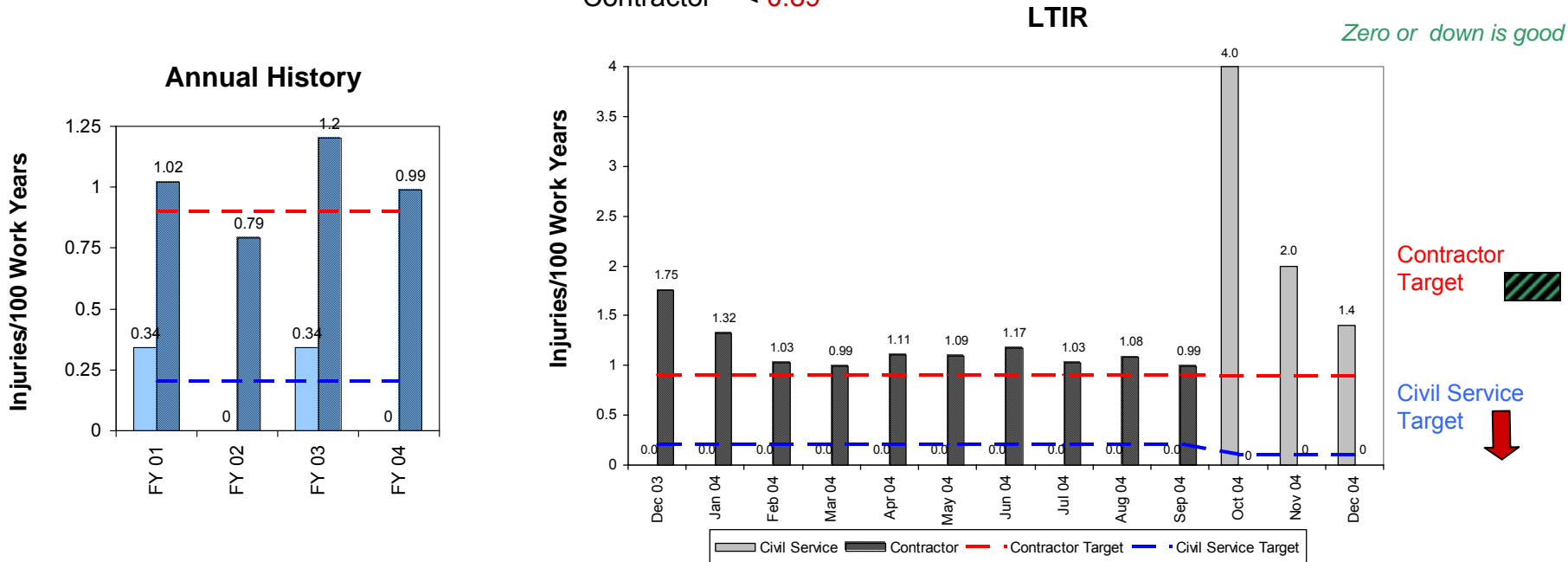
MWT Deviations

MWT Deviation Target = Minimize number of MWT Deviations



SSC Lost Time Injury Rate (LTIR) – Type C

LTIR Targets* - Civil Service < 0.1
Contractor < 0.89



- **LTIR for Civil Service = 1 injuries x 200k hours / 147.4k hours worked = 1.4 (exceeds target)**

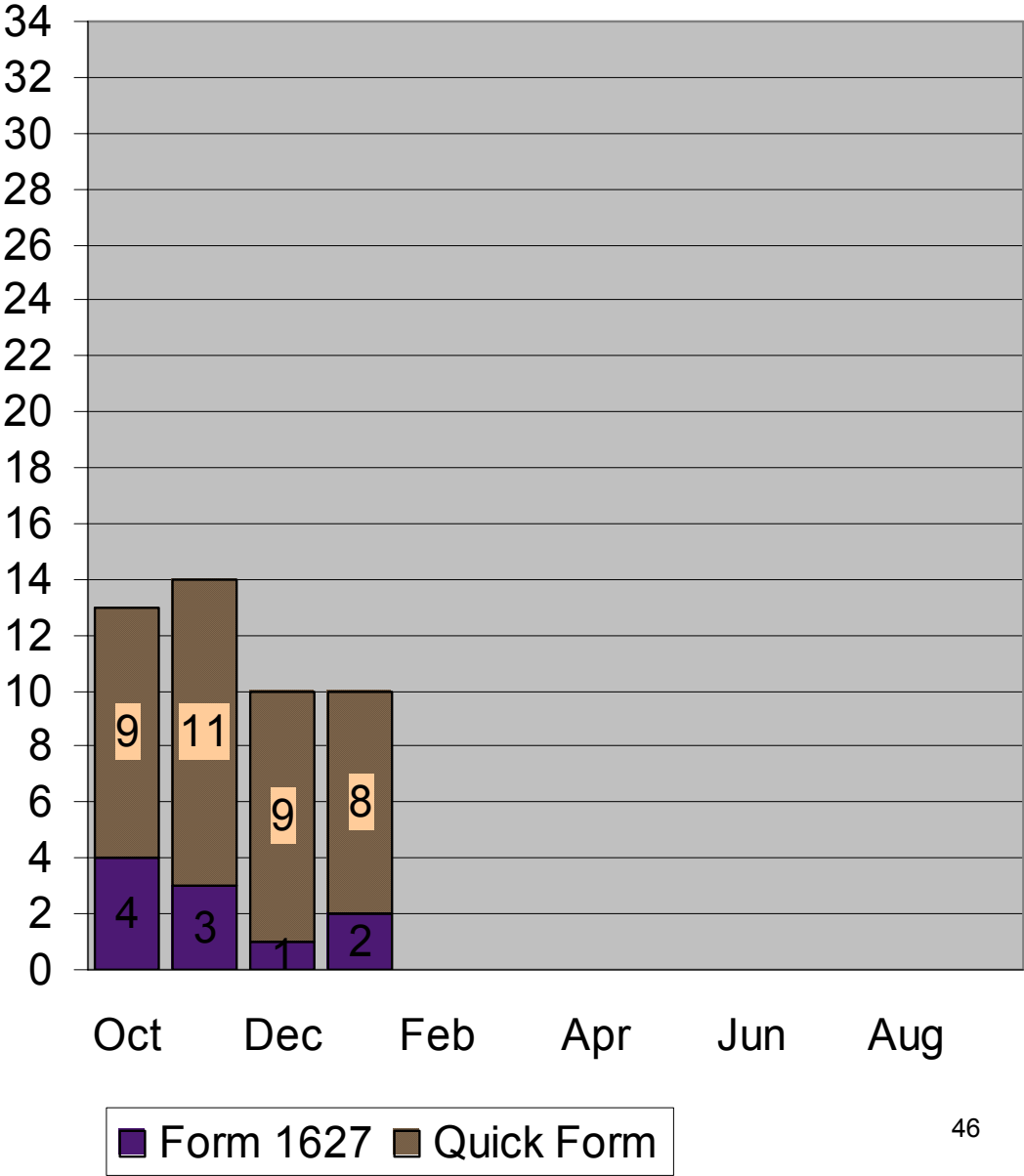
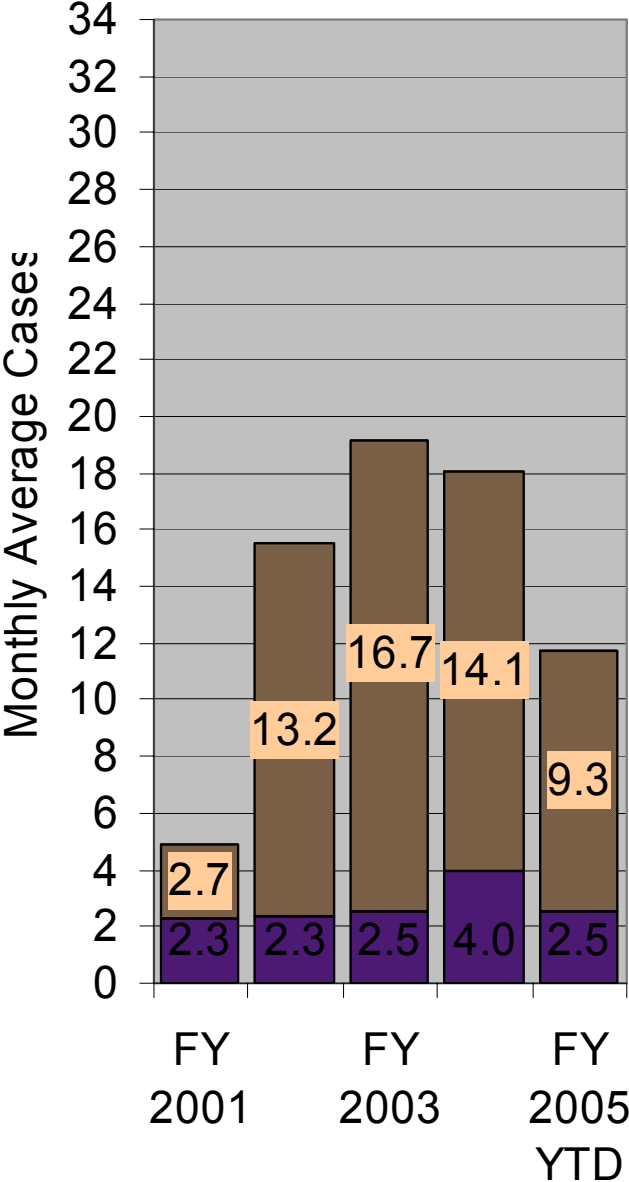
- December LTIR is up compared to previous months.
- Annual history: LTIR is up compared to previous years
- December /2004: 0 lost time injuries; 47.7k hours worked
- FY 05: 1 lost time injury; 147.4k hours worked

- **LTIR for Contractor = 0 cases x 200k hours / 579.7k = 0 (within target)**

- December LTIR is 0, which is down compared to previous months.
- Annual history: LTIR is down compared to previous years
- December /2004: 0 lost time cases; 221.7k hours worked
- FY 05: 0 lost time cases; 579.7k hours worked

* LTIR target is based on a 10% reduction over the previous SSC 3 year average. The contractor LTIR tends to be higher than the civil service LTIR due to a higher potential for exposure to hazards..

FY 2005 Monthly (as of 1/31/05)

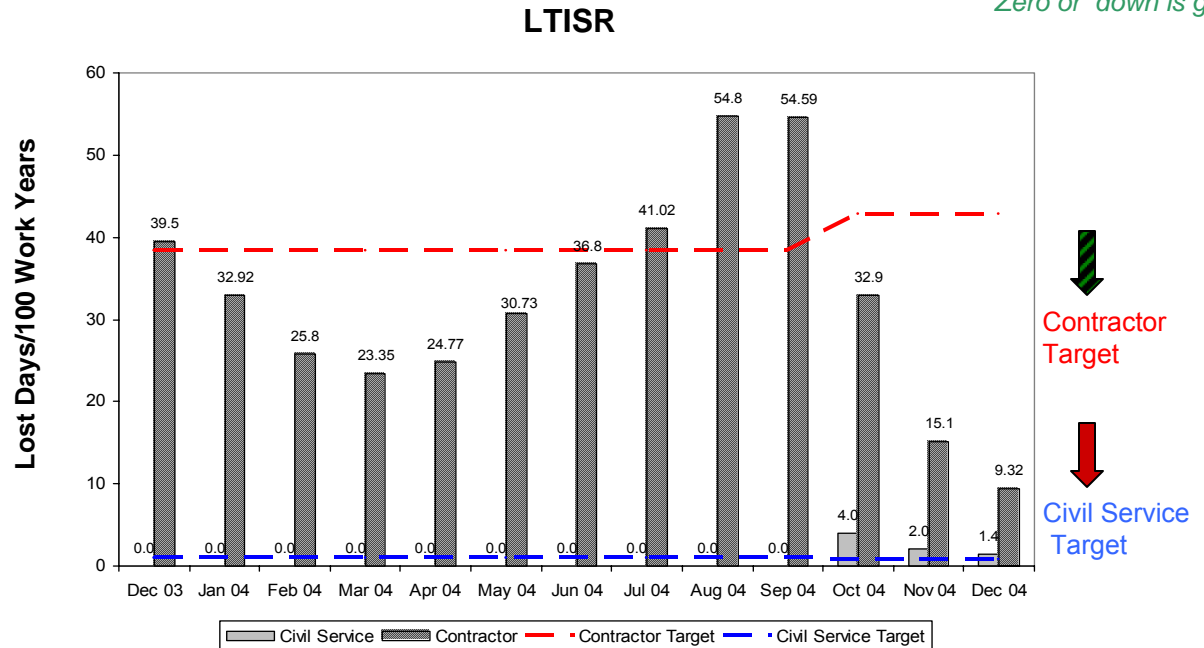
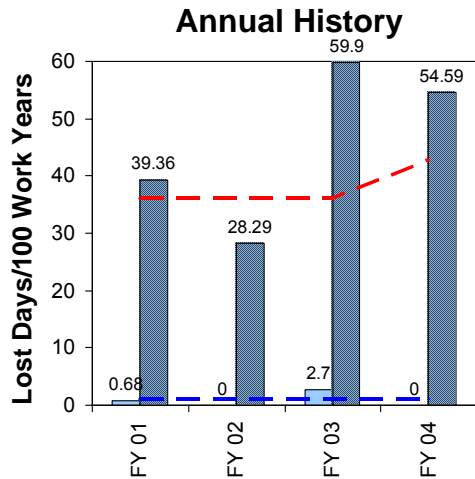


Form 1627
 Quick Form

SSC Lost Time Injury Severity Rate (LTISR) – Type C

LTISR Targets* - Civil Service < 0.81
Contractor < 42.83

Zero or down is good



- **LTISR for Civil Service = 1 lost day x 200 k hours / 147.4k hours worked = 1.4 (exceeds target)**
 - December LTISR is up compared to previous months.
 - Annual history: LTISR is up compared to previous years
 - December /2004: 0 lost days; 47.7k hours worked
 - FY 05: 1 lost day; 147.4k hours worked
- **LTISR for Contractors = 27 lost days x 200 k hours / 579.7k hours worked = 9.32 (within target)**
 - December LTISR is down compared to previous months.
 - Annual history: LTISR is down compared to previous years
 - December /2004: 0 lost days; 221.7k hours worked
 - FY 05: 27 lost days; 579.7k hours worked

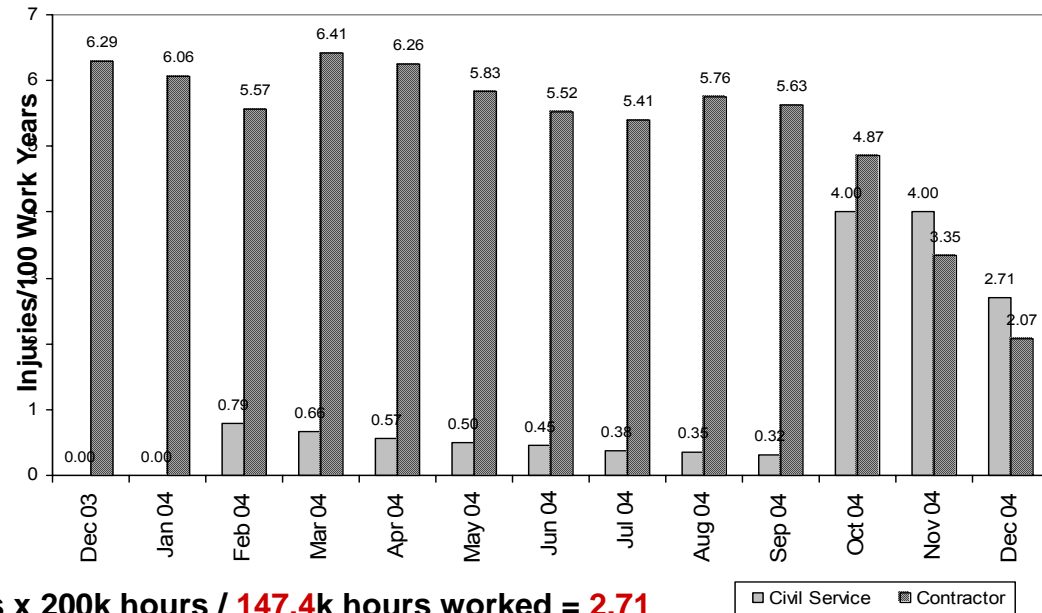
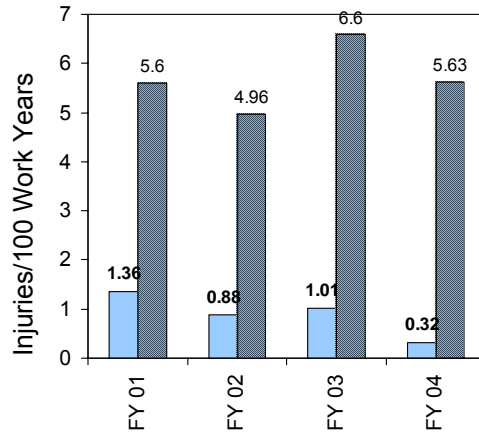
* LTISR target is based on a 10% reduction over the previous SSC 3 year average. The contractor LTISR tends to be higher than the civil service LTISR due to a higher potential for exposure to hazards.

SSC Total Case Incident Rate (TCIR) – Type C & D

TCIR

Zero or down is good

Annual History

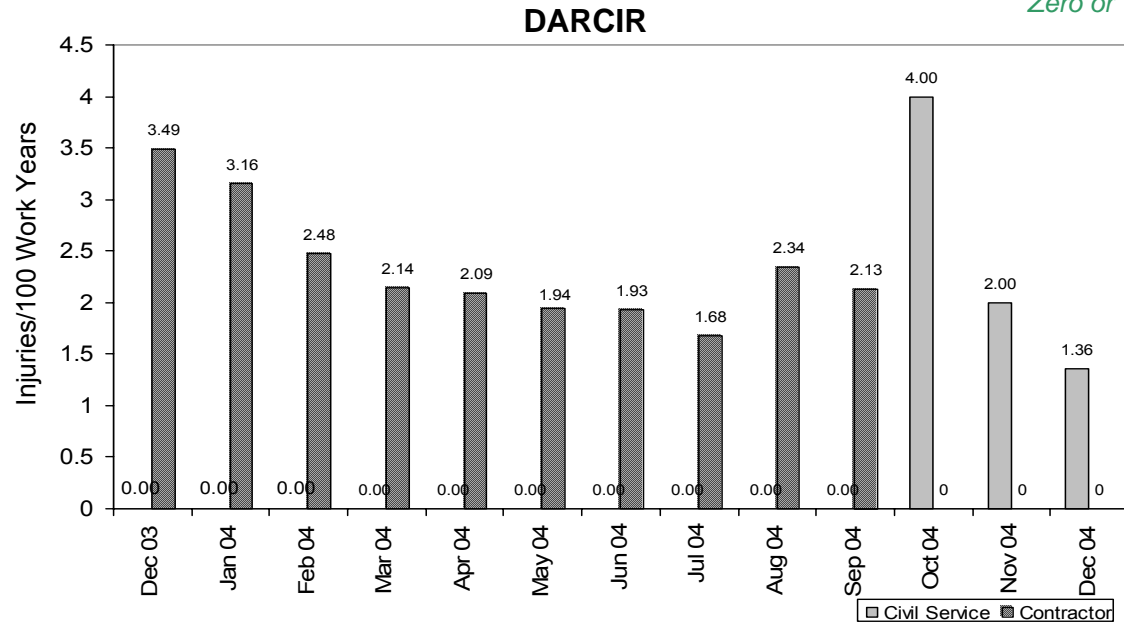
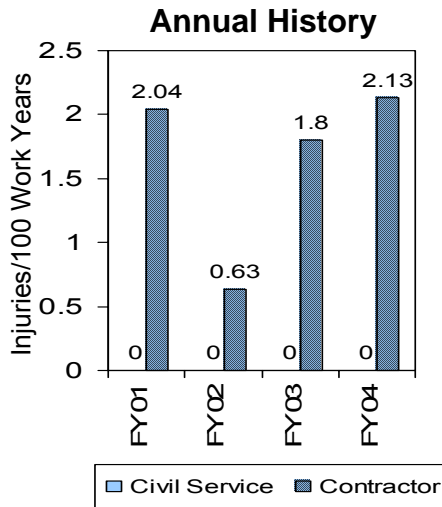


- **TCIR for Civil Service = 2 injuries x 200k hours / 147.4k hours worked = 2.71**
 - December TCIR is **up** compared to previous months.
 - Annual history: TCIR is **up** compared to previous years
 - December/2004: 0 lost time injuries & 0 medical treatment injuries; 47.7k hours worked
 - FY 05: 1 lost time injuries & 1 medical treatment injury; 147.4k hours worked
- **TCIR for Contractors = 6 injuries x 200k hours / 579.7k hours worked = 2.07**
 - December TCIR is **down** compared to previous months.
 - Annual history: TCIR is **down** compared to previous years
 - December /2004: 0 lost time injuries & 0 medical treatment injuries; 221.7k hours worked
 - FY05 : 0 lost time injuries & 6 medical treatment injuries; 579.7k hours worked

NASA's goal set in response to the January 9, 2004, President's initiative calls for a 3% reduction in case rates for lost time injuries and illnesses (LTIR)

SSC Days Away From Work & Restricted Duty Cases Incident Rate (DARCIR) – Type C & D (Restricted Duty Cases only)

Zero or down is good



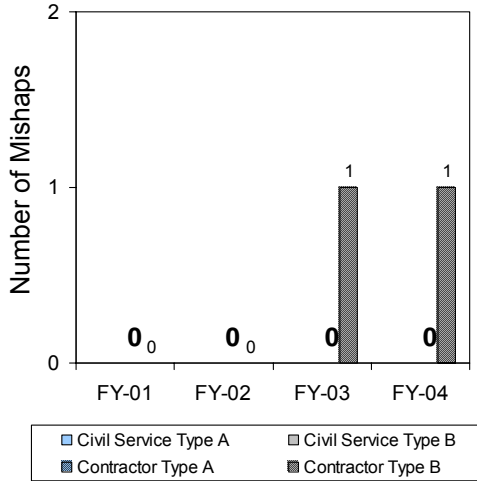
- **DARCIR for Civil Service = 1 injuries x 200k hours / 147.4k hours worked = 1.36**
 - December DARCIR is **up** compared to previous months.
 - Annual history: DARCIR is **up** compared to previous years
 - December/2004: 0 lost time injuries & 0 restricted duty injuries; 47.7k hours worked
 - FY 05: 1 lost time injury & 0 restricted duty injuries; 147.4k hours worked
- **DARCIR for Contractors = 0 injuries x 200k hours / 579.7k hours worked = 0**
 - December DARCIR is **down** compared to previous months.
 - Annual history: DARCIR is **down** compared to previous years
 - December/2004: 0 lost time injuries & 0 restricted duty injuries; 221.7k hours worked
 - FY 05: 0 lost time injuries & 0 restricted duty injuries; 579.7k hours worked

SSC Type A & B Mishaps

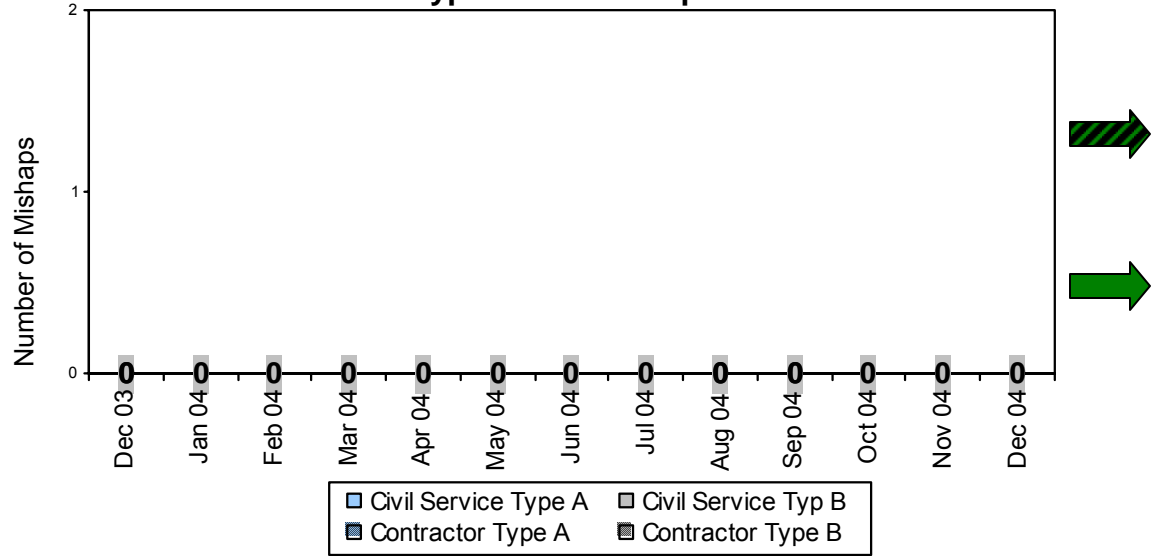
Mishap Target (Type A & B Mishaps) = 0

Zero or down is good

Annual History



Type A & B Mishaps

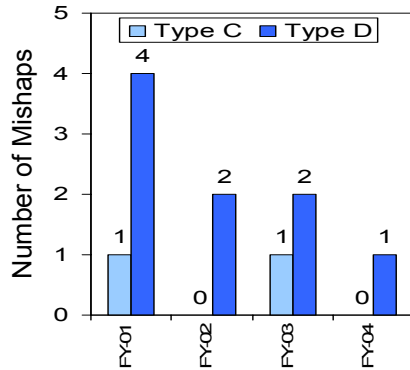


- **Number of Type A & Type B Mishaps for Civil Service = 0 (within target)**
 - There were 0 Type A and 0 Type B mishaps in recent months.
 - Annual history: 0 Type A and 0 Type B mishaps in recent years.
 - December/2004: 0 Type A and 0 Type B mishaps .
 - FY 05: 0 Type A and 0 Type B mishaps in recent months.
- **Number of Type A & Type B Mishaps for Contractors = 0 (within target)**
 - There were 0 Type A and 0 Type B mishaps in recent months.
 - Annual history: 0 Type A and 2 Type B mishaps in recent years.
 - December/2004: 0 Type A and 0 Type B mishaps .
 - FY 05: 0 Type A and 0 Type B mishap in recent months.

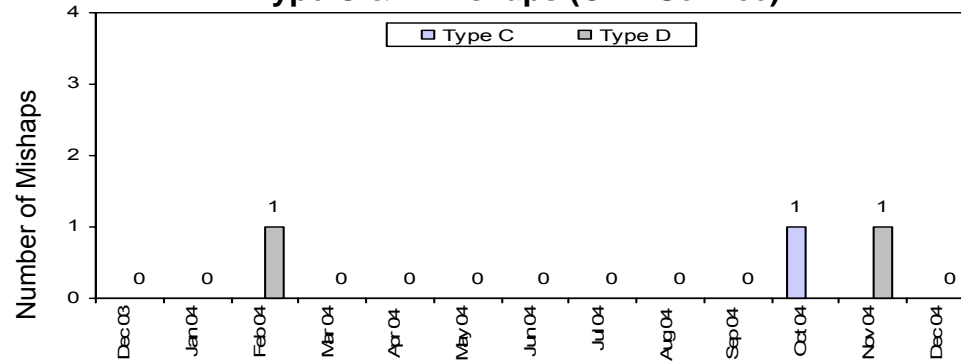
SSC Type C & D Mishaps

Zero or down is good

Annual History (Civil Service)



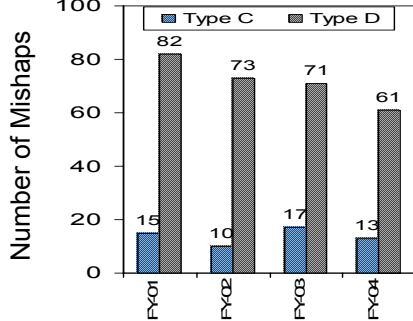
Type C & D Mishaps (Civil Service)



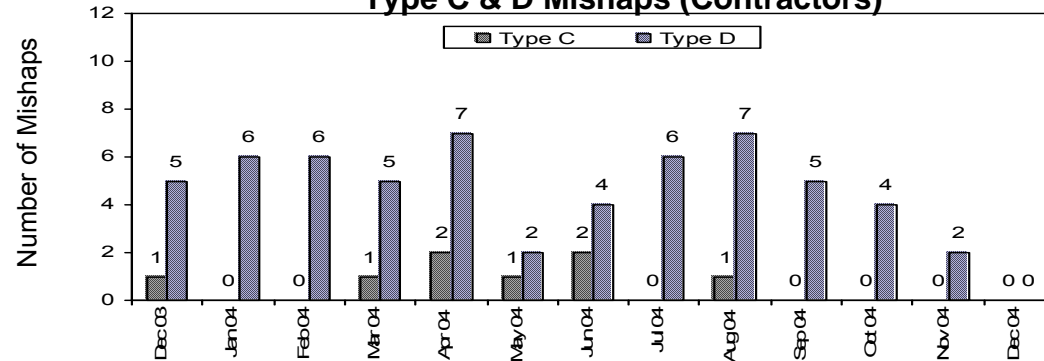
- **Number of Type C and D Mishaps for Civil Service is 2**

- There was 1 Type C lost time injuries & 1 Type D medical case..
- Annual history: The number of Type C and/ or Type D mishaps is up over recent years.
- December/2004: 0 Type C and 0 Type D cases.
- FY05: 1 Type C and 1 Type D case.

Annual History (Contractor)



Type C & D Mishaps (Contractors)



- **Number of Type C and D Mishaps for Contractors is 6**

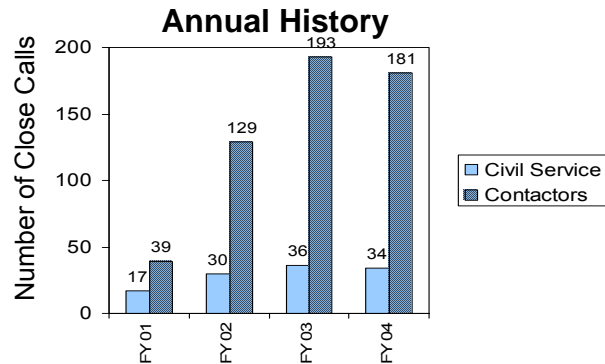
- There were 0 Type C lost time injuries & 6 Type D medical cases.
- Annual history: The number of Type C and/ or Type D mishaps is down over recent years.
- December/2004: 0 Type C and 0 Type D cases.
- FY 05: 0 Type C and 6 Type D cases.

SSC Close Calls *

Close Calls Reporting Targets **

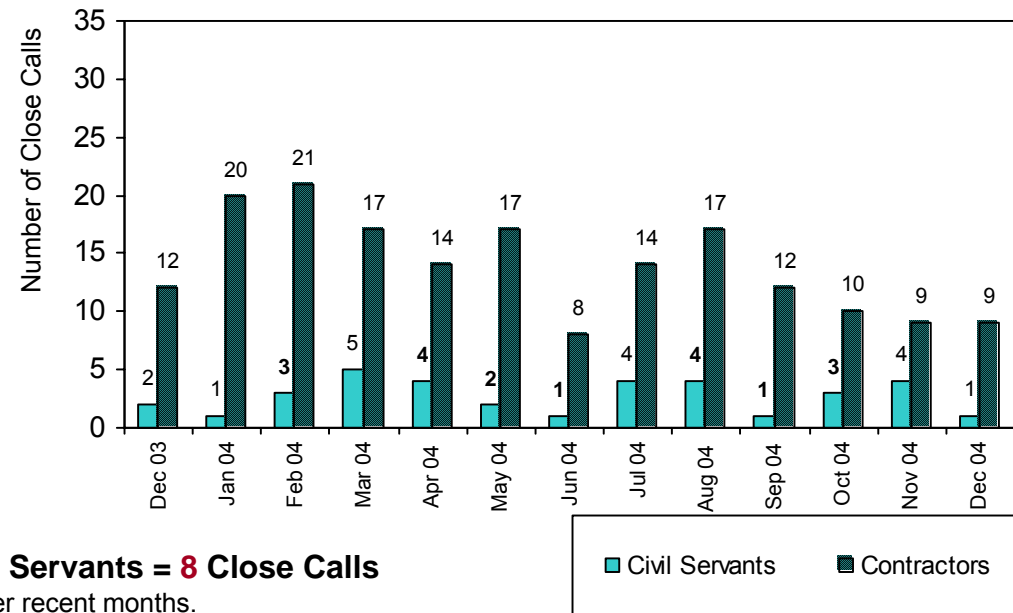
Civil Service > Report All Close Calls

Contractor > Report All Close Calls

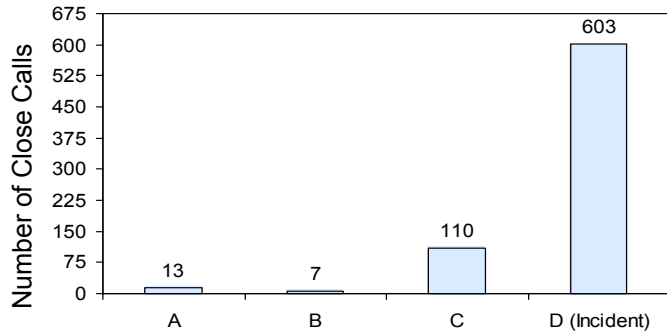


Close Calls Reported

Up is good



Close Calls by Potential Mishap Type (FY 98 – FY 2004 Historical Data)



- **Number of Close Calls Reported by Civil Servants = 8 Close Calls**

- December close call reporting was down over recent months.
- Annual history: Number of close calls reported is flat over recent years
- December/2004: 1 close call reported
- FY 05: 8 close calls reported.

- **Number of Close Calls Reported by Contractors = 28 Close Calls**

- December close call reporting was down over recent months
- Annual history: Number of close calls reported is down over recent years
- December/2004: 9 close calls reported
- FY 05: 28 close calls reported.

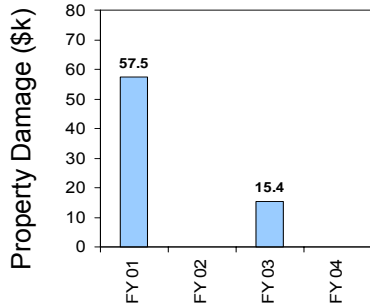
* Close Call: See Safety Metrics Information section

SSC Equipment/Property Damage (All Mishaps Types A - D and Close Calls)

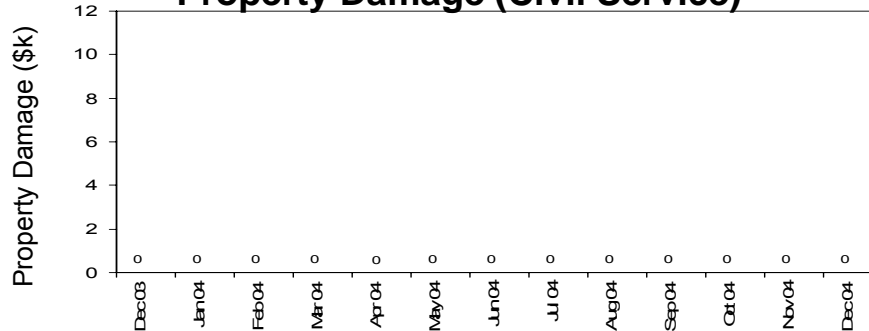
Property Damage Target = 0

Zero or down is good

Annual History (Civil Service)



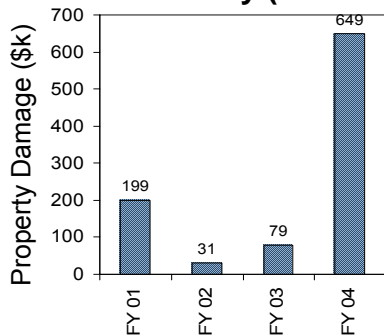
Property Damage (Civil Service)



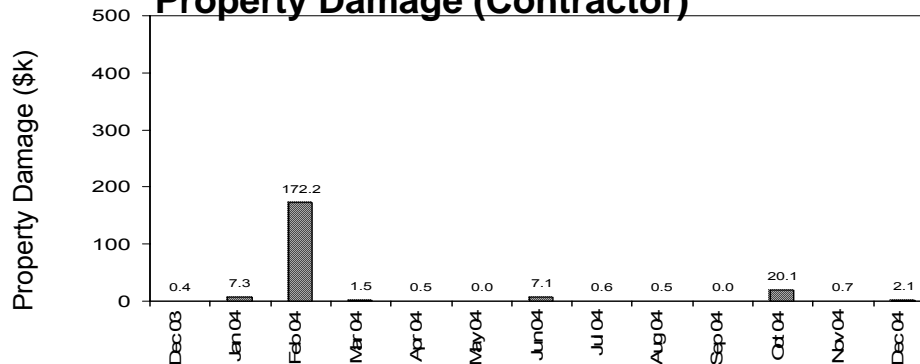
- **Total Dollar Value of Property Loss for Civil Service = \$ 0**

- Property damage has been **flat** over recent months.
- Annual history: Property damage has been **down** over recent years
- **December/2004: 0** property damage mishaps (\$ 0)
- FY 05: **0** property damage mishaps (\$ 0)

Annual History (Contractor)



Property Damage (Contractor)



- **Total Dollar Value of Property Loss for Contractors = \$23.2k**

- Property damage has been **up** over recent months.
- Annual history: Property damage has been **up** over recent years
- **December/2004: 1** property damage mishap
- FY 05: **5** property damage mishaps (\$23.2k)

FY 04 YTD Lost Time Summary

Date Of Injury	Organization	Mishap Description	Total Lost Days	Restr. Duty Alt.
10/2/03	Paragon	Back/ASP training	6	No
11/4/03	Boeing	Knee/Bumped table	79	Yes
11/7/03	MSS	Pulled chest muscles	16	Yes
11/20/03	MSS	Pinched nerve/Welding	5	Yes
12/3/03	MSS	Back/Fell from ladder	19	Yes
3/9/04	DCMA	Back/Tripped on stairs	35	Yes
4/17/04	Paragon	Elbow/Hit on Vault Door	68+	No
4/26/04	Paragon	Ankle/Agility test	60+	No
5/15/04	DCMA	Back/Kneeling-slipped	40+	Yes
6/2/04	Paragon	Knee/Twisted	23+	No
6/23/04	Paragon	Hand/Puncture	2+	No

Cases highlighted in blue signify employees still out on leave.

File Number	Incident Category	Status	Date and Time	Responsible Organization
2004-282-00011	Mishap	Open pending investigation	10/06/2004 8:20 PM	NASA

Incident Description:

Individual was descending the stairway between floors 3 and 2 when she slipped and fell to her left side and rear resulting in her left leg, hip and back impacting the stair steps and both knees being stressed. Individual then proceeded to the medical clinic located in the building of the accident to report the injury.

Actions:

Upon notification of the injury NASA Safety investigated the stairway from the 3rd floor to the first. No abnormalities were found. The stairway was not slick or wet at any point, no protrusions, voids or debris of any kind was found. The steps and landing were clean.

Employee was wearing high heel shoes which may have attributed to the fall. Employee had stated to coworker that she felt uncomfortable using the stairs, therefore usage of the elevator would be safer for one who is uncomfortable using the stairways.

Safety Metrics Information

Occupational Safety Metrics Information

Lost Time Injury Rates (LTIR) – (Type C)

Goal: Center goal: 0, Target: Civil Service <0.1, Contractor <0.89, based on a 10% reduction over the previous 3 year average..

Metric Description: This metric measures the number of injuries which result in lost time (days away from work). The units are the number of lost time injuries per 100 work year equivalents.

Metric Formula: $LTIR = \# \text{ of lost time injuries} \times 200,000 \text{ hours} / \text{Total Work Hours}$

Data Source: IRIS.

Update Frequency: Monthly or when a LT occurs.

Lost Time Injury Severity Rate (LTISR) – (Type C)

Goal: Center goal: 0, Target: Civil Service <0.81, Contractor <42.83, based on a 10% reduction over the previous 3 year average..

Metric Description: This metric (also known as “days away from work”) measures the number of lost time days per 100 work years. This metric can be biased when a small number of lost time cases accrue many lost time days.

Metric Formula: $LTI \text{ Severity Rate} = \text{Total \# of lost time days} \times 200,000 \text{ hours} / \text{Total Work Hours}$

Data Source: IRIS

Update Frequency: Monthly or when lost work days occur.

Total Case Incident Rate (TCIR) – (All Types C & D)

Goal: Center goal: 0

Metric Description: This metric measures the total number of lost time and medical treatment cases (including restricted duty cases). The units are the total number of lost time and medical treatment cases (including restricted duty cases) per 100 work year equivalents.

Metric Formula: $TCIR = (\# \text{ of Medical Cases (includes restricted duty cases)} + \# \text{ of Lost Time cases}) \times 200,000 \text{ hours} / \text{Total Work Hours}$

Data Source: IRIS

Update Frequency: Monthly or as mishap occurs.

Days Away From Work & Restricted Duty Cases Incident Rate (DARCIR) – Types C & D (Restricted Duty only)

Goal: Center goal: 0

Metric Description: This metric measures the number of lost time and restricted duty cases. The units are the number of lost time and restricted duty cases per 100 work year equivalents.

Metric Formula: $DARCIR = (\text{Total Restricted Duty Cases} + \text{Total Lost Time cases}) \times 200,000 \text{ hours} / \text{Total Work Hours}$

Data Source: IRIS

Update Frequency: Monthly or as mishap occurs.

Occupational Safety Metrics Information (continued)

Mishap

Goal: Center goal: 0

Metric Description: This metric measures the total number of mishaps by type of mishap (A, B, C, or D). Mishaps are categorized as: Type A - A mishap causing death; damage to property and/or mission failure resulting in loss > \$1 million; Type B - A mishap resulting in permanent disability; damage to property and/or mission failure resulting in loss > \$250,000; Type C - A mishap causing occupational injury or illness that results in a case involving day(s) away from work; damage to property, or mission failure resulting in loss > \$25,000; Type D - A mishap requiring medical treatment greater than first aid but without any lost time; damage to property, or mission failure resulting in loss > \$1000.

Metric Formula: Not applicable

Data Source: IRIS

Update Frequency: Monthly or as mishap occurs.

Close Call

Goal: Center goal: Report all close calls.

Metric Description: This metric measures the total number of close calls reported. A close call is defined as a situation or occurrence with no injury or injury requiring first aid only, no damage or only minor damage (less than \$1,000), but possesses the potential to cause any type mishap, or any injury, damage, or negative mission impact.

Metric Formula: Not applicable.

Data Source: IRIS & Close Call Quick Form.

Update Frequency: Daily

Property/Equipment Damage or Mission Failure

Goal: Center goal: 0

Metric Description: This metric adds up the dollar value of property or equipment damage resulting from mishaps or close calls.

Metric Formula: Not applicable

Data Source: IRIS

Update Frequency: Monthly or as incident occurs.