

Mission Success Starts With Safety



# Construction Safety

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SSC Construction Inspection  
Safety Findings/Stats

February 2015



Mission Success Starts With Safety



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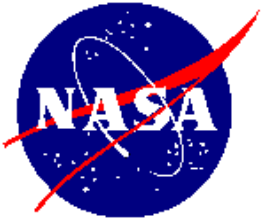
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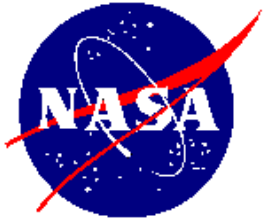
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# Construction Safety Findings: 2-6 February 2015

## Findings Total: 1

-Serious Findings: 0

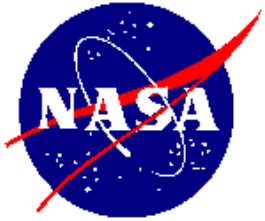
-Less than Serious Findings: 1

-In-use scissor lifts were discovered to not have been inspected (daily) as required, and no inspection sheets available. The contractor promptly provided inspection sheets and conducted training on inspection requirements.

## Mishaps / Close Calls: 0

## Informational

On February 5, Fall Protection training was sponsored by Harry Pepper and Associates at the north apron of the B Test Stand.



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# Construction Safety Findings: 2-6 February 2015





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# Construction Safety Findings: 9-13 February 2015

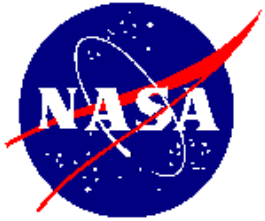
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**Findings Total: 0**

**Mishaps / Close Calls: 0**

**Informational (1)**

- On February 12, a stand down was held on the B Test Stand to reflect on proper safe work practices, and to clear the way for lead paint sample collection in and around the stand.



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## Construction Safety Findings: 16-20 February 2015

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**Findings Total: 0**

**Mishaps / Close Calls: 0**

**Informational (2)**

- **SSC Dashboard** February 17, 2015
- **FOSC Weekly Safety Topic** February 23, 2015



|  |   |   |  |
|--|---|---|--|
| SSC Team<br>447 Days<br>Without A<br>Lost Time<br>Incident | Previous<br>SSC Record<br>Between<br>Lost Time<br>Cases<br>465 Days | <p><b>You can eat with false teeth,<br/>you can't see with a glass eye!</b></p> | <br><b>Eye Safety</b> |
|--|---|---|--|

**Approximately 4,446,288 Hours Without an SSC Team Lost Workday**

**NASA Mishap Information System (NMIS)**

On February 8, 2015, a construction worker had a foreign body (FB) enter their right eye. During the act of removing their face shield (which had been in place during the work operation) a piece of rust/metal fell behind the safety glasses. After several ineffective attempts to dislodge the FB via flushing at the job site trailer, the employee was taken to an off-site clinic where the eye was cleared of all particles. The employee was given an antibiotic prescription making this a Type D OSHA recordable.

**Corrective Action:**

SSC experiences more eye injuries than you would think. In CY2014, SSC had a total of six eye related injuries. Five of those were NASA Direct Construction related, owing to the hazards present on the jobsite. Of the six total cases, four were OSHA recordable cases – this primarily the result of method of removal of foreign body, and/or prescription of antibiotics to prevent infection, both of which are bellwethers for treatment severity. Mitigative measures such as the addition of magnetic strips to the hard hat brim, and tapping PPE with one's hand before doffing have proven marginally effective in reducing the problem. Recent measures in the field also involve the use of face-hugging type safety glasses (spoggles) which incorporate a foam seal to aid in preventing FB entry, and full face shield with a pronounced catchment.

**Safety Management Review**

Date: February 24, 2015

Time: 9:00 – 10:00

Location: Gainesville Conference Room

**NASA ISO 9001 & ISO 14001 Registrar Audits**

First week in March 2 – 6

9001 March 2 – 6

14001 March 2, 3 & 4

**Safety Training**

Personal Protective Equipment (PPE)

February 23

Hazard Communication

February 24

Hearing Conservation

February 24

Personal Fall Arrest System (Bring your harness to class)

February 25

Hearing Conservation

February 26





**Face  
Catch  
Shield**



**Hard Face  
Shield**



**Spoggle  
Fits to  
Face**

# Eye Injuries in the Workplace

Every day an estimated 1,000 eye injuries occur in American workplaces. The financial cost of these injuries is enormous--more than \$300 million per year in lost production time, medical expenses, and workers compensation. No dollar figure can adequately reflect the personal toll these accidents take

on the injured workers.

## WHAT CAUSES EYE INJURIES?

Flying particles. The Labor Department's Bureau of Labor Statistics (BLS) found that almost 70% of the accidents studied resulted from flying or falling objects or sparks striking the eye. Injured workers estimated that nearly three-fifths of the objects were smaller than a pin head. Most of the particles were said to be traveling faster than a hand-thrown object when the accident occurred.

Contact with chemicals caused one-fifth of the injuries. Other accidents were caused by objects swinging from a fixed or attached position, like tree limbs, ropes, chains, or tools which were pulled into the eye while the worker was using them.

**Maintenance:** Eye protection devices must be properly maintained. Scratched and dirty devices reduce vision, cause glare and may contribute to accidents.

## HOW CAN EYE INJURIES BE PREVENTED?

Always wear effective eye protection. OSHA standards require that employers provide workers with suitable eye protection. To be effective, the eyewear must be of the appropriate type for the hazard encountered and properly fitted. For example, the BLS survey showed that 94% of the injuries to workers wearing eye protection resulted from objects or chemicals going around or under the protector. Eye protective devices should allow for air to circulate between the eye and the lens.

Eliminate hazards before starting work by using machine guards, work screens or other engineering controls.

**90%**  
OF ALL  
WORKPLACE EYE  
INJURIES CAN  
BE PREVENTED  
BY WEARING  
PROPER  
PROTECTIVE  
EYEWEAR.

# JACOBS FOSC Group



## WEEKLY SAFETY TOPIC

FEBRUARY 23, 2015

### Dusty Faceshield/Hardhat Removal

Try this on for size. Here's a way to help prevent debris from falling in your face and ultimately injuring your eyes.

When worn properly, the area between your faceshield and hard hat is a trough for metal chips, slag, and other debris.

When you are ready to raise or remove your faceshield, remove your gloves, bend over, and let the debris fall away from your faceshield.

While remaining bent over, remove your faceshield starting from the back of your hard hat and sliding it forward away from your body.

Slide the faceshield off your head, always pushing the faceshield forward and away from your face.

Lay the faceshield down and slightly tap the faceshield as you lay it down. Remain bent over to allow the remainder of the debris on your hard hat to fall.

Use the same method to remove your hard hat to keep your eyes free from debris.

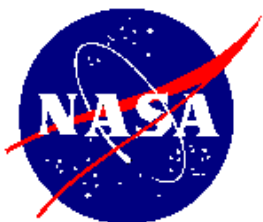
**Always remove head/face gear down and away from your face. Be mindful of the wind conditions!**

#### **Something in Your Eyes?**

If you get any foreign matter or debris in your eyes, DO NOT rub or touch the eye in any way. It is a natural reaction to want to rub or touch, but the best thing you can do is attempt to flush it out at an eyewash station.

Never assume that flushing the eyes has removed the debris. DO NOT rub or touch the eyes. You can't see what or what has not been cleaned. Alert your supervisor or coworker and have yourself transported to the Clinic immediately.





# Construction Safety Findings: 23-27 February 2015

**Findings Total: 0**

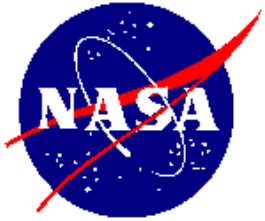
**Mishaps / Close Calls: 0**

**Other: 2**

- 1) Mr. Robert Gargiulo has been promoted to NASA Safety, Quality and Management Systems Division Chief (QA10).
- 2) The SSC SCWI-8715-0004 (Confined Space Entry Program) has been revised.

| Document History Log Status/Change/ Revision | Change Date | Originator/ Phone    | Description   |
|--|-------------|----------------------|---|
| Rev F  | 12/2014     | R. Gargiulo, x8-3842 | Clarified the terminology for NASA, NASA prime, NASA direct construction, and resident agencies. Added the audit of completed confined space entry permits, Section 7. Deleted the Form SSC-822, Confined Space Entry or Reclassification Field Audit Form; audits are embedded in the revised Form SSC-576, Confined Space Entry Permit. |

**SCWI-8715-0004**



## SSC Construction Safety:

### 4.3. NASA Direct Construction Contractors and Subcontractors to NASA Prime Contractors

NASA Direct Construction Contractors and subcontractors to NASA Prime Contractors who enter SSC confined spaces shall:

- a. Develop and implement a written Confined Space Entry Program in accordance with the requirements of 29 CFR 1910.146 and this SCWI.
  - 1) The written Confined Space Entry Program (to include rescue/emergency services) must be reviewed and approved by a designated safety representative (NASA SSC SMA or the NASA Prime Contractor safety) prior to initiation.
  - 2) The program must include the necessary employee training.
- b. Classify all permit-required confined space entry operations as SAFETY CRITICAL. Permits are to be signed by the designated safety representative.



## SSC Construction Safety:

### 4.5.2 Entry Supervisor

Entry supervisors shall:

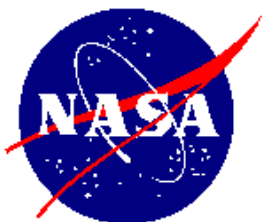
d. Notify the SSC Fire Department at least 24 hours in advance of proposed/planned permit-required confined space entry.

1) If the SSC Fire Department is the designated Confined Space Entry Emergency Response Team, then

(a). Alert the SSC Fire Department immediately prior to permit-required entry operations. No entry into a permit-required confined space shall take place until the SSC Fire Department has been notified of the place, time, estimated duration and activity of the confined space entry operation. The SSC Fire Department is required to sign the SSC-Form 576, Confined Space Entry Permit.

(b). Ensure, through contact with the SSC Fire Department, certified rescue personnel will be available through the duration of the confined space entry.

2) If the Confined Space Entry Emergency Response Team is a construction/maintenance contractor approved rescue team, then the SSC Fire Department will be notified 24 hours in advance so that they may provide backup emergency response support as necessary. The construction/maintenance contractor entry/rescue team is required to sign the SSC-Form 576, Confined Space Entry Permit, prior to entry.



## SSC Construction Safety:

### 4.5.4 Confined Space Entry Emergency Response Team

The confined space entry emergency response team may consist of the SSC Emergency Response/Fire Department or the qualified rescue team for the construction/maintenance contractor entering the confined space. The confined space entry emergency response team shall:

- a. Understand and be trained in the use of PPE and confined space rescue equipment.
- b. Be familiar with location, configuration and rescue plan of the confined space for which they are providing emergency response/rescue support.
- c. Use appropriate retrieval systems or methods to facilitate rescue whenever an authorized entrant enters a permit-required space, unless the retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. Retrieval systems used by rescue teams shall meet requirements outlined in 29 Code of Federal Regulation (CFR) 1910.146.
- d. Ensure methods and procedures are in place to effectively rescue personnel in distress within confined spaces at SSC.
- e. Maintain certification in Basic First Aid and Cardiopulmonary Resuscitation (CPR).
- f. Understand the training required for authorized entrants and attendants.
- g. Determine whether rescue services can be on scene within four (4) minutes for rescue. If this is not possible, a constant presence by an emergency response team member shall be required.
- h. The SSC Emergency Response/Fire Department shall include annual simulated rescues from spaces that may require rescue operations.



## SSC Construction Safety:

### **7.0 CONFINED SPACE ENTRY PERMIT AUDIT**

At the completion of the permit required confined space entry by NASA or a NASA Prime Contractor, a quality assurance audit shall be performed on the terminated/cancelled confined space entry permit (SSC Form 576), to assess compliance with this SCWI. The quality assurance audit is required to close the associated work authorization document/Stennis Work Request. Any discrepancies or areas for improvement shall be addressed to improve the SSC Confined Space Entry Program and to comply with the annual program review requirements of 29 CFR 1910.146. A summary of the quality assurance audit and corrective actions/recommendations will be summarized in the Annual VPP Self Evaluation per paragraphs "4.1 a." and "4.2 a." of this SCWI. Sections 1 through 9 of the Confined Space Entry Permit, SSC Form 576, have a blocks which will be initialed/dated for the quality assurance audit review. If a discrepancy or an opportunity for improvement is noted during the quality assurance audit, the "corrective action required" block is checked and addressed in Section 10 of the SSC Form 576, Confined Space Entry Permit.



SSC-576

|  <b>National Aeronautics and Space Administration</b><br>John C. Stennis Space Center<br>Stennis Space Center, MS 39529-6000   |                          | <b>CONFINED SPACE ENTRY PERMIT</b>   |  |
|---|--------------------------|--|--|
| <b>1. GENERAL INFORMATION</b> <span style="float: right;">QA Audit (Initial/Date): <input type="checkbox"/> Corrective Action Required</span>   |                          |  |  |
| Date & Time Issued<br>Date: _____ Time: _____   |                          | Date & Time Permit Expires<br>Date: _____ Time: _____  |  |
| Organization Performing Entry   |                          | Location & Description of Confined Space   |  |
| Purpose of Entry  |                          | Work Description (Mark Authorizing Document/ Stennis Work Request/MAXIMO #)  |  |
| <b>2. PRE-ENTRY PROCEDURES</b> (check applicable) <span style="float: right;">QA Audit (Initial/Date): <input type="checkbox"/> Corrective Action Required</span>   |                          |  |  |
| <b>Isolation Methods:</b><br><input type="checkbox"/> Blanking or Blocking<br><input type="checkbox"/> Lockout / Tagout<br><input type="checkbox"/> Purge & Clean<br><input type="checkbox"/> Inert<br><input type="checkbox"/> External Barrier<br><input type="checkbox"/> Other: _____ |                          | <b>Communication Methods:</b><br><input type="checkbox"/> Visual<br><input type="checkbox"/> Voice<br><input type="checkbox"/> Radio<br><input type="checkbox"/> Tug Rope<br><input type="checkbox"/> Other: _____   |  |
|   |                          | <b>Ventilation Methods:</b><br><input type="checkbox"/> Inital (30 minute minimum)<br><input type="checkbox"/> General Ventilation Maintained<br><input type="checkbox"/> Method: _____  |  |
| <b>3. ENTRY HAZARDS CONTROLLED</b> (Answer All Questions) <span style="float: right;">QA Audit (Initial/Date): <input type="checkbox"/> Corrective Action Required</span>   |                          |  |  |
| Description of all Potential Hazards Requiring Evaluation: (All NO answers must be corrected prior to entry)  |                          |  |  |
| Yes   | No                       | The Oxygen levels are between 19.5% and 23.5% (continuous monitoring required)<br>Are applicants blocked/blanked from entering the confined space?<br>There are no flammable gases/vapors and/or combustible dust/fumes in the space. List if found: _____<br>There are no toxic gases/vapors present. List if found: _____<br>Atmospheric monitoring is in place (document initial and subsequent readings in section 8)<br>There are no corrosive hazards present in the space.<br>All electrical hazards are eliminated or controlled.<br>All mechanical hazards/stored energy are eliminated or controlled/isolated.<br>Noise hazards are eliminated or controlled in the space.<br>Engulfment hazards are eliminated.<br>Ventilation (if required) is in place and providing air from a clean source (no exhausts, no contaminants, etc.)<br>Communication means with the entrants and rescue is in place.<br>Tripod (if required) is in place and entrants are attached to it/lines.<br>Pedestrian and vehicle barriers/signs (if required) are in place.<br>Confined Space Entry Permit is maintained at the entrance.<br>Other hazards (if applicable) are eliminated/controlled. List hazards introduced during entry (hot work, chemicals, painting, cleaning), electrical, wildlife, and/or combustible dust/fumes, etc:<br>Hazard: _____ Elimination/Control Means: _____<br>HAZARD _____ Elimination/Control Means: _____<br>HAZARD _____ Elimination/Control Means: _____<br>HAZARD _____ Elimination/Control Means: _____ |  |
| <input type="checkbox"/>  | <input type="checkbox"/> | Pre-entry briefing was accomplished on the specific hazards, work to be performed, control methods, and rescue plans.  |  |
| <b>4. EMERGENCY RESCUE PLAN/PROCEDURES</b> <span style="float: right;">QA Audit (Initial/Date): <input type="checkbox"/> Corrective Action Required</span>  |                          |  |  |
| <input type="checkbox"/> Complex/unique rescue - Attach written rescue plan to permit<br><input type="checkbox"/> Rescue plan/methods: _____  |                          |  |  |
| <input type="checkbox"/> Method(s) for contacting Emergency Rescue: <input type="checkbox"/> On-Site/In-Place Rescue <input type="checkbox"/> Radio <input type="checkbox"/> Cell Phone (228-688-3636) <input type="checkbox"/> SSC Land Line (911)                                       |                          |  |  |
| <input type="checkbox"/> Contractor provided emergency/rescue service coordinated with SSC Fire Department: _____ Date: _____   |                          |  |  |
| <b>5. CONFINED SPACE TEAM SIGNATURES</b> <span style="float: right;">QA Audit (Initial/Date): <input type="checkbox"/> Corrective Action Required</span>  |                          |  |  |
| Entry Supervisor: I inspected the confined space work site and provided a Pre-Entry Briefing on the specific hazards, work to be performed, hazard control methods, communication plan, and rescue plan. I approve this permit. This permit shall be maintained at the entrance.          |                          |  |  |
| Entry Supervisor Printed Name   |                          | Entry Supervisor Signature   |  |
| Training Expiration Date  |                          | Date/Time  |  |
| Emergency Rescue Team: I have reviewed this permit and approve the planned rescue procedures as outlined in section 4.  |                          | Safety: I have reviewed this permit and understand the conditions of entry (safety critical procedure).  |  |
| Signature of Rescue Team Lead   |                          | Signature of Safety  |  |
| Date  |                          | Date   |  |

| AUTHORIZED ATTENDANT: I reviewed the confined space entry conditions/requirements and understand my Attendee roles & responsibilities. |           |                     |              |           |                     |
|--|-----------|---------------------|--------------|-----------|---------------------|
| Printed Name   | Signature | Training Expiration | Printed Name | Signature | Training Expiration |
|  |           |                     |              |           |                     |

| AUTHORIZED ENTRANT(S): I reviewed the confined space entry permit conditions/requirements and understand my Entrant roles & responsibilities. |           |                     |              |           |                     |
|---|-----------|---------------------|--------------|-----------|---------------------|
| Printed Name  | Signature | Training Expiration | Printed Name | Signature | Training Expiration |
|   |           |                     |              |           |                     |
|   |           |                     |              |           |                     |

| G. AUTHORIZED ENTRANT TRACKING  |         |          |                    |         |          |
|---|---------|----------|--------------------|---------|----------|
| CA Audit (Inferable): _____ <input type="checkbox"/> Corrective Action Required |         |          |                    |         |          |
| Authorized Entrant  | Time In | Time Out | Authorized Entrant | Time In | Time Out |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |
|   |         |          |                    |         |          |

| H. ATMOSPHERIC TESTING AND MONITORING EQUIPMENT                                 |              |               |                      |
|---|--------------|---------------|----------------------|
| CA Audit (Inferable): _____ <input type="checkbox"/> Corrective Action Required |              |               |                      |
| Area Monitor/Make   | Model Number | Serial No/EOR | Calibration Due Date |
|   |              |               |                      |
|   |              |               |                      |
|   |              |               |                      |
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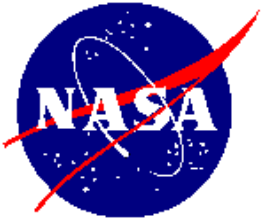
| I. ATMOSPHERIC TESTING AND MONITORING RECORD                                    |                 |              |              |              |              |              |              |
|---|-----------------|--------------|--------------|--------------|--------------|--------------|--------------|
| CA Audit (Inferable): _____ <input type="checkbox"/> Corrective Action Required |                 |              |              |              |              |              |              |
| Continuous monitoring shall be recorded at least every 2 hours.                 |                 |              |              |              |              |              |              |
| Hazard (acceptable level)   | Initial Reading | Next Reading | Next Reading | Next Reading | Next Reading | Next Reading | Next Reading |
|   | Time: _____     | Time: _____  | Time: _____  | Time: _____  | Time: _____  | Time: _____  | Time: _____  |
| Oxygen (19.5% - 23.5%)  |                 |              |              |              |              |              |              |
| Flammable (≤10% LEL)  |                 |              |              |              |              |              |              |
| Carbon Monoxide (≤35 ppm)   |                 |              |              |              |              |              |              |
| Hydrogen Sulfide (≤10, 0 ppm)   |                 |              |              |              |              |              |              |
| Other Hazard: _____   |                 |              |              |              |              |              |              |
| Other Hazard: _____   |                 |              |              |              |              |              |              |
| Testers Initials  |                 |              |              |              |              |              |              |

| J. PERMIT CANCELLATION/TERMINATION  |                            |           |
|---|----------------------------|-----------|
| CA Audit (Inferable): _____ <input type="checkbox"/> Corrective Action Required   |                            |           |
| I personally verified all equipment was removed, all persons exited the confined space and conducted a debrief. I certify this permit is canceled/terminated. |                            |           |
|   |                            |           |
| Entry Supervisor Printed Name   | Entry Supervisor Signature | Date/Time |

| K. QUALITY ASSURANCE (QA) AUDIT & CORRECTIVE ACTION RECOMMENDATION FOR SECTIONS 1-8  |                       |
|--|-----------------------|
| The CA audit of this entry permit noted the following discrepancies. See the recommended corrective actions/areas for improvement. |                       |
| 1. Discrepancy: _____  | Recommendation: _____ |
| 2. Discrepancy: _____  | Recommendation: _____ |
| 3. Discrepancy: _____  | Recommendation: _____ |
| 4. Discrepancy: _____  | Recommendation: _____ |



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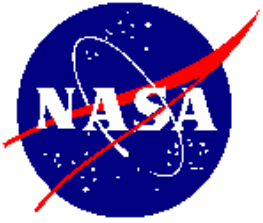


# Construction Safety

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Questions?

<http://constructionsafety.ssc.nasa.gov/>



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# Construction Safety

A photograph of a space shuttle launch. The shuttle is on the right, with a large plume of white smoke and orange fire trailing behind it as it ascends into a blue sky. The ground is dark and appears to be a launch complex.

Have a Safe month!

<http://constructionsafety.ssc.nasa.gov/>