

**SUBORBITAL AND SPECIAL ORBITAL PROJECTS DIRECTORATE**

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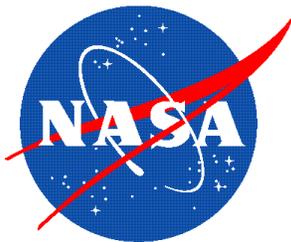
**Wallops Flight Facility  
Safety Program Assessment  
Report**

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*Signature on file*

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## Wallops Flight Facility Safety Program Assessment Report

This report captures the findings of several assessments addressing the safety and health program at the Wallops Flight Facility (WFF). This report addresses these issues in three sections: an Executive Summary, a listing of general areas that require improvement, and a listing of all documented findings from these assessments and audits. The contents of this report will be provided with the WFF Safety Program Improvement Plan as part of the Phase 1 closure. This report captures a snapshot in time and is intended to provide general guidance for corrective actions and is not intended to document all specific safety issues at WFF.

### Executive Summary

During the months of August and September 2009 two independent assessments were accomplished at the Wallops Flight Facility addressing the status of the safety program at this facility. The assessments focused on the safety training program and the status of the current overall safety program when measured against a program compliant with 29CFR1960 for Federal Agencies and the OSHA Voluntary Protection Program. While both assessments were focused in different areas there were several common themes regarding the findings.

- A substantial lack of required safety training for employees and managers across the site, which stems from a lack of overall guidance at the center level was a recurring issue.
- A lack of a cohesive safety plan that addresses regulatory requirements, agency and local requirements attributed to the lack of training requirements.
- The need to develop and use metrics for measuring compliance with requirements and employee involvement were cited in both assessments.
- Many safety items are referenced in multiple guidance documents, but some of those documents have never been formalized or accepted and many have similar but slightly different requirements. There were several gaps noted between GSFC and WFF regarding implementation of safety requirements.

None of the noted shortcomings are so major they cannot be corrected with a dedicated effort to do so. Most can be corrected at the facility level while some will be best corrected at the center level. Those issues that can be addressed at the local level will undoubtedly be faster to implement. GSFC has indicated the Greenbelt site will pursue the VPP method and therefore their support in correcting these issues is expected. A focused effort to correct these issues is expected to span 18 to 24 months, depending on availability of resources and the dedication of management in leading this effort. A detailed listing of findings with associated suggested timelines for correction is included to support this timeline.

### General Areas Identified Within the Audits and Assessments That Require Corrective Action

The following table details many of the more complicated items that need to be corrected. More actions will arise during the implementation of these corrective measures; however a general

baseline schedule may be developed from this list. While the creation of a schedule addressing these issues will provide a focused starting point, multiple issues will arise during the correction of these identified shortcomings that will need to be included as time goes on. It is expected that at least 18 months from the time of implementation will be required to establish a majority of a new safety program fundamental elements.

| <b>Corrective Action Tracking Number</b> | <b>Problem</b>                                                                                                                                           | <b>Suggested Corrective Action</b>                                                                                                                                               | <b>Suggested Methodology of Implementation</b>        | <b>Corrects Item</b>                             |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------|
| 1                                        | Annual mishap and illness rates are not tracked and posted                                                                                               | Create metrics for goals and track on a monthly basis. Develop a standard location for information and train employees how to find and use this information                      | Code 803.2 to lead this effort.                       | WFF 09-01<br>WFF 09-10<br>WFF 09-12<br>WFF-09-32 |
| 2                                        | Major contractors are not required to pursue VPP status, have weak process requirements for subcontractors and have few required safety responsibilities | Determine what contracts are of a scope and duration that would warrant the inclusion of VPP and define requirements for all contracts regarding VPP and subcontractor selection | Code 803 with Code 240                                | WFF 09-02<br>WFF 09-05<br>WFF 09-20              |
| 3                                        | Multiple requirements are not captured in the current GPRs                                                                                               | Update applicable GPRs to reflect correct requirements                                                                                                                           | Code 803.2                                            | WFF 09-03<br>WFF 09-04                           |
| 4                                        | Councils and committees do not have a documented process for goals, attendance, metrics or action items                                                  | Modify charters to reflect requirements for all councils and committees                                                                                                          | Code 803.2 and members of the councils and committees | WFF 09-06<br>WFF 09-07<br>WFF 09-08<br>WFF 09-09 |
| 5                                        | There is a not a single voice for leading the VPP effort at WFF                                                                                          | Assign one person to be the single point of contact and publish contact info, attend council and committees                                                                      | Code 803.2 to lead this effort                        | WFF 09-11                                        |

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| 6  | There is not a process for the required annual evaluation of the safety program                                               | Implement a process that is compliant with 29CFR1960 and VPP to be completed by the end of February each year                    | Code 803.2 to lead this effort                                                                    | WFF 09-13<br>WFF 09-17                           |
| 7  | The Close Call reporting system indicates a very low number of responses                                                      | Train employees on what to report, when to report and how to report                                                              | Code 803.2 to lead this effort                                                                    | WFF 09-14<br>WFF 009-30                          |
| 8  | Employees are not included in safety tasks such as investigations, assessments and inspections                                | Create a process and develop training to include employees and committee members in these activities.                            | Code 803.2 and safety council and committees                                                      | WFF 09-15<br>WFF 09-31                           |
| 9  | All employees are not instructed in the basic safety program and how they are included                                        | Create training and present at each Safety Awareness Campaign at a mandatory "All Hands". Also place training on SATERN for WFF. | Code 803.2 and safety council and committees                                                      | WFF 09-16<br>WFF 09-18<br>WFF 09-50              |
| 10 | There is not a documented close-out procedure for construction and modification of facilities                                 | Create a process for new construction and modifications                                                                          | Code 803.2 and Code 228                                                                           | WFF 09-19                                        |
| 11 | IH surveys, areas that require hearing protection, mold complaints, lead and asbestos information is not consistently updated | Create a maps and schedule for reviews based on risk                                                                             | Code 803.2 to lead this effort with assistance from Code 228                                      | WFF 09-21<br>WFF 09-24<br>WFF 09-25<br>WFF 09-39 |
| 12 | Ergonomic surveys are inconsistent and focused on administrative areas only                                                   | Create training and include industrial areas in inspections and training.                                                        | Code 803.2 to lead this effort with assistance from the employee and contractor safety committees | WFF 09-23                                        |
| 13 | There is no heat                                                                                                              | Create formal training                                                                                                           | Code 803.2 to                                                                                     | WFF 09-26                                        |

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|----|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------|
|    | awareness training provided to employees                                                           | for heat and cold weather operations                                                                                                                                         | assist the Health Unit          |                                     |
| 14 | Job Hazard Analysis process is not utilized across the site                                        | Create and provide training and formalize the process in the current Work Center Safety Guide complete with organizational metrics and a retention system for completed JHAs | Code 803.2 to lead this effort. | WFF 09-27                           |
| 15 | Facility Safety Inspections are not compliant or consistent                                        | Create a formal process for performing, documenting and tracking issues from facility inspections                                                                            | Code 803.2 to lead this effort  | WFF 09-28                           |
| 16 | The Facility Operations Manager inspection program is inconsistent across the site                 | Update the GPR to reflect specific requirements for WFF                                                                                                                      | Code 803.2 to assist Code 228   | WFF 09-29                           |
| 17 | There is no process to document engineering and administrative controls implemented for operations | Create a process to document changes to drawings, procedures and policies to document changes and rationale to support these changes                                         | Code 803.2 to lead this effort  | WFF 09-33<br>WFF 09-34              |
| 18 | Multiple documents related to the safety program are not available to employees via GDMS           | Review, update and publish formal documents via the GDMS system. Eliminate all documents outside the GDMS process.                                                           | Code 803.2 to lead this effort  | WFF 09-35<br>WFF 09-36<br>WFF 09-40 |
| 19 | The Confined Space Program does not assign unique numbers to all spaces                            | Develop a process to identify and track each permanent confined space                                                                                                        | Code 803.2 to lead this effort  | WFF 09-37                           |

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| 20 | There are no Fire Department procedures regarding access to identified confined spaces                                             | Develop a map and procedures for extraction from confined spaces that require this effort             | Code 803.2 to assist the Fire Department        | WFF 09-38 |
| 21 | Chemical Safety Program is not applied consistently across the site- open and unmarked containers were found in multiple locations | Update the GPR to include WFF specific information                                                    | Code 803.2 to assist Code 250                   | WFF 09-41 |
| 22 | LOTO Program does not include all energy sources and does not include machine specific procedures                                  | Update the existing GPR to include other energy sources and task machine owners to develop procedures | Code 803.2 to develop process and assist owners | WFF 09-42 |
| 23 | LOTO tag use is not consistent and conflicts with operational locks                                                                | Develop standard site wide tag and procedure for operational locks                                    | Code 803.2 to lead this effort                  | WFF 09-43 |
| 24 | GPRs have not been updated to address NFPA 70E requirements                                                                        | Update GPR                                                                                            | Code 803.2 to lead this effort                  | WFF 09-44 |
| 25 | Requirements for forklift trucks is scattered in many documents and inconsistent                                                   | Combine all requirements for forklift operations and publish in GPR or similar format                 | Code 803.2 to assist Code 500                   | WFF 09-45 |
| 26 | Requirements for Fall Protection is scattered in many documents and inconsistent                                                   | Combine all requirements for Fall Protection and publish in GPR or similar format                     | Code 803.2 to lead this effort                  | WFF 09-46 |

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| 27 | Hot Work Permits requirements does not address training or details on application of the program                     | Update the documentation, establish training and metrics                                          | Code 803.2 to assist the Fire Department                                | WFF 09-47 |
| 28 | Fire Protection inspections are no per NFPA requirements                                                             | Establish a formal inspection process with requirements and metrics                               | Code 803.2 to assist the Fire Department                                | WFF 09-48 |
| 29 | PPE requirements are scattered among multiple documents and are inconsistent                                         | Establish a formal requirements data set in a GPR and publish in GDMS                             | Code 803.2 to lead this effort                                          | WFF 09-49 |
| 30 | The Emergency Response Plan is lacking multiple required information                                                 | Update the Emergency Response Plan as required                                                    | Code 803.2 to lead this effort                                          | WFF 09-51 |
| 31 | AEDs and First Aid Kits are available in various parts of the facility, but there is no required training or program | Develop a written program for AEDs and a policy for First Aid Kits. Develop training as required. | Code 803.2 to assist the Fire Department and Health Unit in this effort | WFF 09-52 |
| 32 | There is no record tracking system within Code 803 to track safety issues and policies                               | Develop a record plan or schedule for all of 803 documents, reports and audit/inspection issues   | Code 803                                                                | WFF 09-53 |
| 33 | Basic posting requirements for CFR 1960 are not in place                                                             | Determine the locations for required postings, update and assign to responsible FOM               | Code 803.2 to assist FOMs in determining locations and requirements     | WFF 09-54 |

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|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| 34 | There is no systematic , closed loop system or plan to address needs assessment, established syllabus for each class, required testing and physicals for certifications | Develop a training plan that addresses all needs, application of training and requirements to include testing and tracking | Code 803.2 to assist Code 100, the GSFC Safety Council, the WFF Executive Safety and Health Council to create a plan | TF-1<br>TF-6<br>TF-7<br>TF-16<br>TF-17<br>TF-18<br>TF-19<br>TF-20<br>TF-22 |
| 35 | There is no systematic method to determine required safety training for employees                                                                                       | Create training assessment tool for supervisors to determine minimum safety training for employees                         | Code 803.2 to assist Code 350 in updating the SAFETRAIN assessment tool                                              | TF-2                                                                       |
| 36 | Certifications issued to personnel are not consistently tracked for verification- OSS was used as an example                                                            | Create a closed loop system to track certifications to ensure expirations and requirements are tracked                     | Code 803.2 to assist Code 350 in updating the SAFETRAIN assessment tool                                              | TF-3                                                                       |
| 37 | Monthly safety briefings and topics are sporadic and attendance is not tracked                                                                                          | Create a system for tracking distribution and application of monthly safety topics                                         | Code 803.2 to assist the Employee Safety Committee                                                                   | TF-5                                                                       |
| 38 | Supervisors and managers do not have instruction on what safety training they are responsible for.                                                                      | Create a center wide course for supervisors and managers to instruct them on the minimum requirements for their employees  | Code 803.2 to assist GSFC Safety Council and Code 100                                                                | TF-8<br>TF-9<br>TF-12<br>TF-15                                             |
| 39 | New Employee Training does not address multiple basic safety topics                                                                                                     | Develop New Employee Training to include all required safety training for permanent employees                              | Code 803.2 to assist Code 100                                                                                        | TF-10<br>TF-11<br>TF-12                                                    |

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|----|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|-------|
| 40 | Personnel are issued badges that allow access to hazardous operations without having any safety training related to hazardous operations | Link required safety training to any security badges that are issues to employees that may be exposed to hazardous operations | Code 803 to work with Code 240                      | TF-13 |
| 41 | Personnel associated with construction work are not briefed on safety issues at the facility                                             | Develop training that is required for all personnel who obtain temporary, limited access to include construction workers      | Code 803 to assist Code 240                         | TF-14 |
| 42 | Training schedules are inconsistent, located in multiple locations and maintained by multiple organizations                              | Create a centralized, online training calendar or schedule that is utilized by all organizations                              | Code 803 to assist GSFC Safety Council and Code 100 | TF-21 |
| 43 | Not all personnel are training in PPE                                                                                                    | Ensure all JHAs address PPE requirements and all affected employees are trained in the proper use of PPE                      | Code 803 to work with Code 350 to develop training  | TF-24 |

TF-XX indicates the finding identified in the Training Assessment (e.g., finding 1 is identified as TF-1 in this report).

## VPP Gap Analysis Recommendations

The following findings are documented in the VPP Gap Analysis performed by an independent contractor during the months of August and September, 2008. These findings have only been edited for typos and/or minor adjustments in editing to provide clarity.

**Finding:** Occupational Injury and Illness rate data is not being tracked on an annual basis

**VPP Element:** Background Information – Accident & Illness Rates

**Recommendation:** The Total Case Incidence Rate (TCIR) and Days Away Restricted and Transferred (DART) rate for 2005-2007 will be needed for the onsite OSHA VPP audit. Federal agencies are required to collect occupational injury and illness data, analyze this data to identify unsafe and unhealthful working conditions, and establish program priorities based on the analysis.

#### **WFF 09-02**

**Finding:** The Prime contractor should comply with NASA initiatives to pursue VPP Star recognition.

**VPP Element:** Management Commitment – Employee/Contractor Involvement

**Recommendation:** A plan should be developed to place contractual emphasis on achievement of VPP with the current and future Prime Contractors including: Honeywell-Near-Earth Network Sciences (NENS), Northrop Grumman IT – NASA Sounding Rocket Contract (NSROC), Lockheed Martin IT – Outsourcing Desktop Initiative for NASA (ODIN), Computer Science Corp (CSC) – Wallops Engineering Service Contract, and VT Griffin Service – Wallops Institutional Consolidated Contract (WIIC).

#### **WFF 09-03**

**Finding:** A review of responsibilities reveal that there are no Industrial Hygiene responsibilities listed for the Facility Director

**VPP Element:** Management Commitment – Responsibility

**Recommendation:** Develop executive level Industrial Hygiene responsibilities that will direct the future of NASA WFF Industrial Hygiene initiatives and achievement of VPP. Once developed, continue in the same format for safety responsibilities in WFF GPR 1700.1, Occupational Safety Program and GPD 8715.1B, Safety Policy.

#### **WFF 09-04**

**Finding:** A review of responsibilities reveals that safety responsibilities in GPR 1700.1, Occupational Safety Program and GPD 8715.1B, Safety Policy are inconsistent.

**VPP Element:** Management Commitment – Responsibility

**Recommendation:** Develop consistent roles and responsibilities. This will help eliminate confusion and a disjointed approach to safety and health management.

#### **WFF 09-05**

**Finding:** A review of responsibilities reveals that safety responsibilities are not defined for Prime Contractors.

**VPP Element:** Management Commitment – Responsibility/Trend Analysis

**Recommendation:** Prime Contractors should be responsibility for the following:

- Develop, implement and maintain compliance with all applicable governmental regulations and NASA policies and procedures.
- Participate in monthly Safety Management Review meetings and present the following:
  - The status of safety and health corrective actions resulting from inspections, audits and outside agencies
  - Injury/Illness incident rates and incident summaries
  - VPP activities and progress
- Support safety through staffing, resources and priorities.
- Direct safety in the organization from the top down, to all areas of the operation.
- Actively participate in safety-related activities and report activities to NASA on an annual basis.
- Ensure that an annual Safety and Health review is completed on time and includes OSHA compliance status, injury/illness performance, trend analysis, accomplishments, and goals for the next year.

#### **WFF 09-06**

**Finding:** The Facility Director chairs the monthly safety management meeting established under GPR 8715.3. At the meeting standing reports are given by representatives of the Employee Safety Committee and the Contractor Safety Council. These reports also include the status of open 30 & 60-day safety work orders. In the 30 & 60 day work order report, but the responsible party for completing the open items is not listed.

**VPP Element:** Management Commitment – Accountability

**Recommendation:** A responsible party for completing the open items should be established to affix the accountability.

#### **WFF 09-07**

**Finding:** There is no tracking metrics established for attendance to the Executive Safety Council meetings.

**VPP Element:** Management Commitment – Accountability

**Recommendation:** A tracking metrics should be established, similar to the Contractor Safety Council attendance metrics, to hold members accountable to their organizations attendance in this important Council meeting.

#### **WFF 09-08**

**Finding:** The Employee Safety Committee plays a key role in achieving the WFF safety goals; however, metrics have not been established to track its progress.

**VPP Element:** Management Commitment - Accountability

**Recommendation:** Develop metrics that drive change though all areas of responsibility of the Employee Safety Committee.

#### **WFF 09-09**

**Finding:** Participation in the Employee Safety Committee and Contractor Safety Council is sporadic and some Codes and Contractors are missing this important meeting.

**VPP Element:** Management Commitment – Employee Accountability & Involvement

**Recommendation:** Implement actions to increase the level of participation in the Employee Safety Committee and Contractor Safety Council to ensure all Codes, functional areas and Contractors are represented each month.

#### **WFF 09-10**

**Finding:** There are no measurable organizational safety and health goals. Therefore, it is not clear how people are being rated and what is being evaluated during the performance review process.

**VPP Element:** Management Commitment - Accountability

**Recommendation:** Work to modify the performance review practices for safety so they connect to achievement of the organizational safety and health goals and go beyond just the achievement of non-measurable performance.

#### **WFF 09-11**

**Finding:** There is no one assigned to champion VPP within NASA on a full time basis. It has been assigned to individuals who already are tasked with several duties. While these persons can certainly oversee the effort, the work required as stated in this Gap Analysis, will require an individual who can focus exclusively on VPP readiness.

**VPP Element:** Management Commitment - Resources

**Recommendation:** Review the workload necessary to accomplish the VPP readiness for NASA WFF and determine what staffing will be required to have someone champion the effort.

#### **WFF 09-12**

**Finding:** Annual Safety goals and objectives have not been developed by trend analysis, critical review of compliance, achievement of best practices and meaningful performance metrics. Further, there are no Safety and Health goals that are shared with NASA employees and Contractors so that everyone is heading in the same direction.

**VPP Element:** Management Commitment – Goals & Planning/Trend Analysis

**Recommendation:** Re-evaluate what metrics are important to the NASA WFF so that they drive change through all areas of responsibility. Inspection of the quality of safety program elements and compliance along with facility audits will be necessary to capture systemic issues that are affecting performance and lead to a weak safety culture. Investigating which best practices can be implemented or modified to promote safe behaviors will produce quality programs and efficiency.

#### **WFF 09-13**

**Finding:** There are various forms of annual evaluations performed by NASA. The evaluations are performed to meet requirements within NASA but have not been directed or modified in a manner that supports a VPP effort.

**VPP Element:** Management Commitment – Self Evaluation/Trend Analysis

**Recommendation:** Use the VPP Gap Analysis to help achieve the annual self evaluation requirements. Missing from the analysis are current VPP injury/illness rates, trend analysis, 2008 accomplishments and 2010 NASA WFF Safety and Health goals. These four tasks will need to be completed by the end of January 2008.

#### **WFF 09-14**

**Finding:** The number of “Close Calls” submitted in 2009 indicates this program has not yet reached a point of effectiveness

**VPP Element:** Management Commitment – Employee Involvement

**Recommendation:** Develop actions to promote the Close Call process and develop and use metrics to verify improvements.

#### **WFF 09-15**

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**Finding:** Employees are involved in safety meetings on a greatly varying level, based on the Code or Department Head. Employees are not generally included in such activities as inspections, ergonomic evaluations, training initiatives and continuous improvement teams.

**VPP Element:** Management Commitment – Employee Involvement

**Recommendation:** Each Code or Department Head should hold regular staff meetings and include safety on a monthly basis. Also, employees should be included in such activities as inspections, ergonomic evaluations, training development and continuous improvement teams.

#### **WFF 09-16**

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**Finding:** A safety awareness campaign is not being conducted which should generally consist of “all hands” meetings and workshops focused on particular safety requirements or interest areas.

**VPP Element:** Management Commitment – Employee Involvement

**Recommendation:** Under Safety GPR 8715.6, an annual safety awareness campaign should be conducted by the Safety and Mission Assurance Branch of the WFF Safety Office to reiterate the safety policy, goals, and objectives, and to remind supervisors and employees of their safety rights and responsibilities.

#### **WFF 09-17**

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**Finding:** There is no indication that the Performance Evaluation Profile (PEP) is being conducted on a regular basis. The data is useful for verifying success of the previous year’s safety and health efforts, and for future planning

**VPP Element:** Management Commitment – Employee Involvement

**Recommendation:** The Work Facility Safety Guide calls for a Performance Evaluation Profile (PEP) survey to be conducted every 12-18 months that will determine the employee perceptions of safety in each of the VPP areas.

#### **WFF 09-18**

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**Finding:** Based on employee and supervisor interviews, employee awareness of the VPP process is limited.

**VPP Element:** Management Commitment – Employee Notification

**Recommendation:** A VPP awareness campaign should be developed which may include: NASA publications that contain safety-related articles and VPP information and billboards with safety messages.

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#### **WFF 09-19**

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**Finding:** At the completion of construction, the close out process of construction projects and building commissioning process seems to be significant opportunities for improvement.

**VPP Element:** Management Commitment – Employee/Contractor Safety

**Recommendation:** A commissioning process should be developed which may include a safety review of critical building systems and structures. The process will help affix accountability for facility safety prior to occupancy.

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#### **WFF 09-20**

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**Finding:** The existing process for the selection and approval of subcontractors is weak and varies between prime contractors.

**VPP Element:** Management Commitment – Contractor Safety

**Recommendation:** Require contractors who hire sub-contractors to submit an explanation of their evaluation and selection process for subcontractors who bid on jobs. If the process is weak, sub-contractors should be pre-approved by the construction review board.

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#### **WFF 09-21**

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**Finding:** Although immediate IH needs are being addressed, the baseline follow-up surveys are not being completed on a regular basis or being documented.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** In accordance with the Industrial Hygiene Program, GPR 1840.2, comprehensive baseline and follow-up IH surveys shall be conducted by the IHO for all codes to establish baseline exposure levels to occupational health hazards. The frequency of follow-up surveys shall correspond to the health risk assessment rating assigned by the IHO as follows:

- Operations assigned a high risk assessment rating shall receive an annual follow-up survey;
- Operations assigned a medium risk assessment rating shall receive a follow-up survey every 2 years; and
- Operations assigned a low risk assessment rating shall receive a follow-up survey every 3 years. In addition, there is no monitoring strategy for hazards in the workplace.

#### **WFF 09-22**

**Finding:** A Phase II ACM survey was completed in March 2009 but labeling of positive ACM has not been completed.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** To prevent accidental exposure to or damage to ACM, labeling of ACM should be completed. Also, the employees should receive training on the ACM management plan or locations of ACM.

#### **WFF 09-23**

**Finding:** Currently ergonomic evaluations for NASA employees working in administrative areas are only conducted on a request basis.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** In order to meet VPP readiness requirements and comply with the Industrial Hygiene Program - GPR 1840.2, Health Hazard Evaluations (HHE) should be conducted. HHEs shall be performed to evaluate, monitor, and document civil service employee exposures to physical agents. This should include ergonomic hazard evaluations on a systematic basis.

#### **WFF 09-24**

**Finding:** Lead is only identified in a pre-construction hazardous material survey or complaint-based survey.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** A lead management program should be established and a survey of damaged and delaminated paint be conducted. Then, a database should be established showing the areas where lead-based paint could be a concern

#### **WFF 09-25**

**Finding:** Mold monitoring and humidity testing is only completed if complaints are received.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** Based on the age of the buildings, the humid climate, and number of building leaks observed, a systematic building inspections should include regular evaluations of mold hazards.

#### **WFF 09-26**

**Finding:** There is no heat awareness training provided to employees.

**VPP Element:** Worksite Analysis –Baseline Hazard Analysis

**Recommendation:** In accordance with the WFF Work Center Guide, a comprehensive baseline and follow-up IH surveys shall include evaluations for cold weather environments and heat stress.

#### **WFF 09-27**

**Finding:** Based on employee and supervisory interviews, JHAs are not typically updated for changes in operations.

**VPP Element:** Worksite Analysis – Hazard Analysis/ Analysis of Significant Changes

**Recommendation:** When new processes, materials, equipment, or facilities are planned; or changes to existing activities are planned; a prior use or change in service hazard analysis must be performed. When these activities affect work centers, the supervisor shall modify an existing JHA or create a new JHA for the work to be performed. JHA need to be completed and updated on an annual basis, as required by GPR 1700.1 - Occupational Safety Program

#### **WFF 09-28**

**Finding:** The safety office has an annual inspection process in place for the office areas occupied by NASA civil servants, but, based on the number of buildings, not all buildings are being completed each year. In addition, the close out rate on the findings is less than 50%.

**VPP Element:** Worksite Analysis – Self-Inspections

**Recommendation:** Develop a plan to ensure that all buildings are inspected on an annual basis. It is also recommended that a close out metric be developed and reported to the Facility Director to help affix accountability.

#### **WFF 09-29**

**Finding:** The Facility Operations Managers (FOM) quarterly inspection responsibilities are completed with varying levels of success throughout WFF.

**VPP Element:** Worksite Analysis – Self-Inspections

**Recommendation:** The Facility Operations Managers (FOM), in accordance with GPR 7320.1A - Facility System Safety, are required to complete quarterly building safety surveys, so that the entire facility is inspected on a regular basis, and to post a copy of the most recent survey prominently in the workplace. A metric should be developed to track FOM inspections and include these responsibilities in their annual performance review. The FOMs would also benefit from OSHA 10-hour outreach training.

#### **WFF 09-30**

**Finding:** Based on the employee and supervisory interviews, not all employees are familiar with the hazard reporting methods at WFF.

**VPP Element:** Worksite Analysis – Hazard Reporting System

**Recommendation:** Develop a communication and awareness campaign so that all employees are aware of the three major hazard reporting systems at NASA WFF including NSRS, Close Calls, and the Help Desk.

#### **WFF 09-31**

**Finding:** Training for incident investigation, IRIS and root cause analysis has been performed but not in a manner that ensures 100% of those who need it receive it.

**VPP Element:** Worksite Analysis – Accident Investigation

**Recommendation:** Achieve 100% training attendance for those persons requiring incident investigation, IRIS and root cause analysis. Offer this training to representatives from the Prime Contractors to ensure they are on board with how NASA WFF is managing incident investigation.

#### **WFF 09-32**

**Finding:** Currently, the majority of the incidents in IRIS have been open for well over 30 days.

**VPP Element:** Worksite Analysis – Accident Investigation/Hazard Tracking

**Recommendation:** In accordance with GPR 8621.3B - Mishap and Close Call Investigation Metrics should be established to help affix accountability for completing timely and accurate investigations such as:

- Elapsed time between Mishap Investigation Board (MIB), Mishap Investigation Team (MIT), and Mishap Investigation (MI) appointment and submission of report
- Percentage of reports rejected by Appointing Official
- Percentage of Corrective Actions rejected by Safety Office
- Elapsed time between appointment of MIB, MIT, and MI and Closeout Letter signature

The timeliness of completing mishap investigation and corrective actions will have to improve for VPP readiness.

#### **WFF 09-33**

**Finding:** There are many examples of how NASA WFF improves safety through implementation of engineering controls. Recalling these examples is difficult and there are currently no records to show much of what has been accomplished.

**VPP Element:** Hazard Prevention and Control – Engineering Controls

**Recommendation:** Establish a file of completed Engineering controls and include photos.

#### **WFF 09-34**

**Finding:** There are many examples of how NASA WFF improves safety through implementation of administrative controls. Recalling these examples is difficult and there are currently no records to show much of what has been accomplished.

**VPP Element:** Hazard Prevention and Control – Administrative Controls

**Recommendation:** Establish a file of completed Administrative controls and include photos.

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#### **WFF 09-35**

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**Finding:** WFF has separate Occupational Safety & Health Manual, WOSHM-2006, and WFF Work Center Safety Guide and an Occupational Safety Program (GPR 17001.1). The Work Center Safety Guide and the Occupational Safety Program (GPR 17001.1) seems redundant.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls

**Recommendation:** In order to effectively manage safety, there needs to be a hierarchical system of documents that starts with the primary Safety and Health Management document. The Work Center Safety Guide and the Occupational Safety Program (GPR 17001.1) should be streamlined to avoid confusion.

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#### **WFF 09-36**

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**Finding:** The Goddard Directive Management System (GDMS) system is not set up in a manner where all NASA Safety and Health procedures can be viewed and accessed.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls

**Recommendation:** The Safety and Mission Assurance web page provides an excellent location to place the Safety Management System document, all Safety Procedures and the forms that are to be used. It is recommended this be completed so that NASA employees and Contractors can reference the documents. It can also be used as an index so everyone can see an index view of the documents.

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#### **WFF 09-37**

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**Finding:** Based on inspections of WFF, the confined spaces were not labeled with a unique identifier that could be traced back the confined space listing.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Confined Spaces

**Recommendation:** Each confined space should be marked with a unique identification marking. This should be cross referenced to the list of confined spaces including the locations of confined spaces and entry procedures.

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#### **WFF 09-38**

**Finding:** Based on the interviews, the Fire Department is not completely aware of their roles and responsibilities during confined space entries. The rescue procedures are critical in the CSE process; therefore, confined space training needs to include clear descriptions of roles and responsibilities.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Confined Spaces

**Recommendation:** Re-train rescue personnel on the expectations, procedures and permit requirements.

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#### **WFF 09-39**

**Finding:** Based on the Industrial Hygiene Baseline report, there are areas where hearing protection is required but not identified in the Program, GPR 1820.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Hearing Conservation

**Recommendation:** The Hearing Conservation Program should include a list of Hearing Protection-required areas.

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#### **WFF 09-40**

**Finding:** NASA's written Hazard Communication program is reportedly contained in GPR 1700.3 Chemical Hazard Communication Program; however, the program could not be located in GDMS.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Hazard Communication

**Recommendation:** A written Hazard Communication Program for employees should be developed. The program should describe how WFF will meet the Standard's requirement; list hazardous chemicals in each work area; describe methods to be utilized in advising employees of hazards in non-routine tasks and unlabeled pipes; and the method through which contractors in their workplace are to be informed of such hazards.

#### **WFF 09-41**

**Finding:** In several areas of the facilities surveyed, transfer containers were not labeled. Also during the survey, several areas appeared to have chemical inventories that have not been completed in the past year

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Hazard Communication

**Recommendation:** Complete chemical inventories on an annual basis to help ensure that all MSDSs are available and current. In addition, verify the MSDSs in the MSDS library are the manufacturers' most current version. Also, all transfer containers should be labeled. Employers must insure that containers of hazardous chemicals in their facility (except for those utilized for transfer and immediate use) be labeled or marked with the chemical's identity and appropriate hazard warning. A hazard identification system may be used instead of affixing labels to individual referenced containers. They should convey the same information regarding each stored chemical.

#### **WFF 09-42**

**Finding:** The LOTO program does not include identification of all energy sources and machine-specific LOTO procedures.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Electrical Safety

**Recommendation:** Machine Specific energy control procedures must be developed, documented and utilized for the control of potentially hazardous energy when employees are engaged in service and maintenance activities on machinery and equipment.

#### **WFF 09-43**

**Finding:** Standardized tags are not in place, as well as, locks that are to be used solely for the purpose of personnel protection is not prescribed.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Electrical Safety

**Recommendation:** Standardized locks and tags should be included as part of the Electrical Safety Program GPR 1700.7 and be utilized in practice.

#### **WFF 09-44**

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**Finding:** There is currently no directive or instruction regarding NFPA 70E compliance for its prime contractors and affected employees. This directive should be listed in the Electrical Safety Program GPR 1700.7

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Electrical Safety

**Recommendation:** Revise the Electrical Safety instructions to include a directive or instruction regarding NFPA 70E compliance for its Prime Contractors and affected employees and so it provides instruction on Arc Flash Electrical Safety responsibilities at NASA WFF.

#### **WFF 09-45**

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**Finding:** Powered Industrial Trucks (PIT) are operated at NASA WFF under several policies and procedures including GPR 8719.1A - Certification and Recertification of Lifting Devices and Equipment and Its Operators and GPR 8719.9, Standard for Lifting Devices and Equipment. The training, certification of operators, and inspection of equipment is also outlined in a number of different documents but safety rules for PITs could not be located.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – PIT

**Recommendation:** Develop a global Powered Industrial Equipment and Government Motor Vehicles procedure. These procedures should include a safety rules section. The single program for PITs should address: safe operation of PITs; rules and regulations; PIT loading operations; safe PIT charging/fueling procedures; pedestrian safety; operator training, operator evaluations and procedures for accident/rule violations.

#### **WFF 09-46**

**Finding:** NASA WFF has limited programs and rules that cover fall protection.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Fall Protection

**Recommendation:** A fall protection program should be established and implemented. This program should provide employees and subcontractors/subcontractor employees, with the knowledge and personal protective equipment needed to protect themselves from exposures associated with working at heights. Once developed, employees and subcontractors/subcontractor employees should be trained in these practices, and policies should be strictly enforced.

#### **WFF 09-47**

**Finding:** WFF has limited formal Hot Work procedures, which are briefly referenced in the Wallops Safety Manual that was last updated in 2006. The program does not address what adequate precautionary measures are or what training needs to be taken to protect personnel and property.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Hot Work

**Recommendation:** A Hot Work Program should be established and implemented. This program should provide employees and subcontractors/subcontractor employees, with the knowledge and personal protective equipment needed to protect themselves and property from exposures associated with welding, cutting, grinding and brazing. Once developed, employees and subcontractors/subcontractor employees should be trained in these practices, and policies should be strictly enforced. Once the Hot Work (Flame Permit) is developed, it will be necessary to update each of the Prime Contractor and include Hot Work in future audits of contractors.

#### **WFF 09-48**

**Finding:** Fire Protection Systems inspection and service in accordance established NFPA codes.

**VPP Element:** Hazard Prevention and Control – Work Practices Controls – Fire Prevention

**Recommendation:** For VPP purposes, the Fire Prevention/Protection Plan should specify how often fire prevention and protection systems are inspected and/or serviced. These should include: sprinkler systems, fire alarm systems, fire extinguishers, fire pumps, fire dampers, fire doors, kitchen hood systems, emergency lighting and smoke vents. The plan should also explain where documentation can be located to demonstrate compliance.

#### **WFF 09-49**

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**Finding:** NASA WFF has numerous documents that reference Personal Protective Equipment (PPE) requirements, including PPE requirements in the JHA. However, a single program that addresses PPE requirements is not available.

**VPP Element:** Hazard Prevention and Control – PPE

**Recommendation:** A PPE program should be established and implemented. This program should provide employees, subcontractors, and their employees with the knowledge and personal protective equipment needed to protect themselves from exposures associated with hazards in the workplace. Once developed, employees and subcontractors/subcontractor employees should be trained in these practices, and policies should be strictly enforced. In addition, a hazard assessment should be conducted to determine if hazards are present, or are likely to be present, which would necessitate the use of PPE. This is to be accomplished on a task-by-task basis, using members of the management staff and supervisors to conduct the hazard assessment. After the hazard assessment is completed, an annual review of the PPE assessment should be conducted and documented.

#### **WFF 09-50**

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**Finding:** NASA has several Health and Safety rules that are included in the individual Safety and Health Programs and the new employee orientation. These rules should be captured in one procedure.

**VPP Element:** Hazard Prevention and Control – Safety Rules

**Recommendation:** Develop a Safety and Health Rules procedure that includes the disciplinary action for violations of rules and regulations for contractors and NASA employees.

## WFF 09-51

**Finding:** The emergency response plan is missing essential elements necessary for compliance.

**VPP Element:** Hazard Prevention and Control – Emergency Preparedness

**Recommendation:** The WFF Safety Office is currently updating the Emergency Plan. The Plan covers fire and explosions, medical emergencies, severe weather, security, aircraft mishaps, continuing operations, launch failures/mishaps. Since the plan is in the process of being updated, recommendation will be limited to:

- The emergency escape routes, plans, and maps for each building. These should be standardized to include:
  - Identification of primary and secondary exit routes
  - Emergency evacuation procedures
  - Shelter in place procedures
  - Preferred means to report and extinguish fires
  - Phone numbers of people to be contacted for further information or assistance
- A policy should be developed on fighting incipient stage fires. If employees are expected to use extinguishers, the employees should be trained on fire extinguisher use.
- Fire drills need to be conducted and documented on an annual basis.
- The emergency alarm and sprinkler systems are maintained and tested; however, it is not inspected, tested, or maintained in accordance with NFPA 25

## WFF 09-52

**Finding:** First Aid and AED equipment and supplies are provided in buildings; however, training is not provided.

**VPP Element:** Hazard Prevention and Control – Occupational Health Care.

**Recommendation:** It is recommended that at least two civil servants per building be trained in First Aid and emergency CPR/AED to stabilize personnel until EMS arrives.

## WFF 09-53

**Finding:** For VPP, it is important to ensure the records that reflect the work performed are available for review in a VPP audit.

**VPP Element:** General Findings

**Recommendation:** It is necessary to ensure records and documentation are preserved and protected when people move in, out, and within the S&MA group.

## **WFF 09-54**

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**Finding:** Posting requirements for OSHA 1960, Basic elements for Federal Employees are currently not available for viewing in employee areas.

**VPP Element:** General Findings

**Recommendation:** Post (Rights and Responsibilities) for OSHA 1960, Basic elements for Federal Employees so it is visible to NASA WFF employees.

### **Supervisor's Workplace Safety Orientation Worksheet**

The tables presented below constitute the Supervisor's Workplace Safety Orientation Worksheet.

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding No: 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                              |
| Policy statements for safety training are included in many Safety Policies and Guidelines, but WFF lacks a plan to provide this training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| <p>Key elements of a safety training program are missing because there is no documented and implemented plan for compliance with federal OSHA training requirements:</p> <ul style="list-style-type: none"> <li>• Identification of OSHA, National Fire Protection Association (NFPA), FAA, EPA, and other applicable training requirements and guidelines.</li> <li>• Identification of employee training groups within the Center population, assessment of training needs, and determination of present training levels.</li> <li>• Identification of specific tasks, hazardous conditions, or specialized processes and equipment encountered by employees that would require safety training.</li> <li>• Documentation for safety training program, including written training syllabi, course objectives, and lesson plans.</li> <li>• Identification and documentation of the planned training to be given to each employee category and the intended approach.</li> <li>• Determination of the availability of safety training resources. A lack of a specific training resource may require the development of specialized training course materials.</li> <li>• Review and evaluation of training needs and schedules, and revision when necessary.</li> <li>• Hazard recognition training.</li> <li>• Training for safety committee members and personnel with collateral safety duties.</li> </ul> |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |
| Establish a documented Safety Training Program Plan that assigns responsibilities, establishes requirements and procedures, ensures compliance with federal OSHA and meets VPP expectations. Guidelines are provided in NPG 8715.3C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                              |

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| Finding No: 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                              |
| Employees may not be receiving all necessary training because their safety training needs are not assessed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                              |
| The few employees who need OSHA certification appear to receive the required training, but for other tasks with training needs (machine tools, compressed gases, PPE), training appears lacking.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Develop a system for safety training needs assessment that identifies training required at the start of employment and is reviewed and updated annually or when tasks change.</li> <li>2. Include non-regulatory NASA training in the assessment.</li> <li>3. Assess training needs for workers at Range areas (Hazard Communication, Lockout/Tag-out, Fall Protection, etc.)</li> <li>4. Compile task training requirements based on the Job Hazard Analyses (JHA) for each affected employee.</li> <li>5. JHAs used in this way should also prompt training for non-routine tasks and visiting workers.</li> <li>6. Create a Training Requirements matrix for each Directorate based on the tasks and environment.</li> <li>7. Alternatively, develop and use a WFF-specific training needs checklist (see example in Appendix B).</li> <li>8. Document training requirements on the employee’s annual Performance Plan.</li> <li>9. Document continuing education and training for safety professionals on their Individual Development Plan.</li> <li>10. Offer a variety of safety training during the annual Safety Awareness campaign.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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| Finding No: 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| Records for Operation Safety Supervisor (OSS) certification lack objective evidence of needs assessment or verification of qualifying training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                              |
| <p>The guidance document for OSS certification lists training requirements (e.g. lockout/tag-out, confined space, ESD) that may be applicable, but are not assessed in the certification documentation.</p> <p>On the OSS application form, the applicant lists their relevant training, but certification records contain no evidence (e.g. certificate).</p> <p>The objective evidence for OSS certification (Range Safety Orientation attendance and test, audio recording of the oral test) are scattered and separated from applications and card issue records.</p>                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Develop a checklist for assessing training needs supplemental to the technical certification requirement for the category as part of the application and recertification process.</li> <li>2. Require applicants to present a course certificate as evidence of qualifying training.</li> <li>3. Create a file (paper or electronic) for each certified employee, containing all their cumulative records.</li> <li>4. Maintain a list of OSSs in SMA, separate from the massive Range Safety database, to facilitate tracking and recertification reminders, as required.</li> <li>5. Provide IT and clerical assistance to enable improved certification records.</li> <li>6. Consider similar improvements for Ordnance Handler certification.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Finding No: 4                                                                                                                                                                                                                                                                                                                                                                                                                        | Type of Finding: <input type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input checked="" type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                                       | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                              |
| Monthly safety topics are raising safety awareness, particularly among office personnel.                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                              |
| Monthly safety topics are presented first to the Executive Safety Council, then to the Employee Safety Committee, which brings the topic to staff meetings. These presentations inform employees on important topics at the awareness level, and have already begun to fill gaps in informal training. Topics are written to address close call and injury trends identified by SMA. This program has a history of more than 5 year. |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| N/A                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                              |

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| Finding No: 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                              |
| Not all Monthly safety topics result in effective safety training and produce retrievable records.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| Not all organizations create a record for Monthly safety topics. Not all Monthly topics demonstrate a consistent level of quality.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Establish an archive of presentations on the SMA web page.</li> <li>2. Ensure that all presentations are highly informative, with useful content and engaging visuals.</li> <li>3. Utilize the monthly training opportunity to inform employees of changes in the safety program (e.g. when an effective internal method for reporting close calls and hazards is established, how to use it).</li> <li>4. Request supervisors to Fax attendance sheets (with date, topic, and presenter name) to SMA so group safety meetings and attendance can be logged.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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| Finding No: 6                                                                                                                                                                                                                                                                                                                                                                                                        | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.a                                                                                                                                                                                                                                                                                                                                                       | Requirement:<br>“Training must be provided so that managers, supervisors, non-supervisory employees, and contractors are knowledgeable of the hazards in the workplace, how to recognize hazardous conditions, signs and symptoms of workplace-related illnesses, and safe work procedures.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                              |
| Much of the key safety training is only provided by NSTC. WFF appears to have difficulty satisfying the NSTC minimum class size requirement, resulting in repeat cancellations of classes that may only be infrequently offered at WFF.                                                                                                                                                                              |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                              |
| Operation Safety Supervisor certification may be seriously impacted if the provision of NSTC training is unreliable. With over 50 OSSs due for recertification within the next year and a half, mission schedules may be affected if OSSs are not available.                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Consider accessing NASA funding sources outside WFF to permit personnel to attend key NSTC training classes conducted at other Centers.</li> <li>2. Advertise NSTC courses scheduled at WFF on the SMA web page and by all hands e-mail, and promote enrollment at safety committee meetings to ensure that these classes are not cancelled for low enrollment.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Finding No: 7                                                                                                                                                                                                                                                                                                                                                                                        | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                             |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.b                                                                                                                                                                                                                                                                                                                                       | Requirement:<br>“Training required by OSHA standards must be provided in accordance with the particular standard.”                          |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                             |
| Some training received by employees may not satisfy OSHA requirements.                                                                                                                                                                                                                                                                                                                               |                                                                                                                                             |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                             |
| A supervisor who identified the need for Hazard Communication training searched the Internet for web-based training, which he and his employees completed. The supervisor was not aware that an appropriate SATERN Hazard Communication module was available.                                                                                                                                        |                                                                                                                                             |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                             |
| <ol style="list-style-type: none"> <li>1. Familiarize WFF supervisors with the safety training modules available in SATERN.</li> <li>2. Provide access to applicable OSHA-compliant training offered by the onsite contractor for facility operations and maintenance, as is already provided for lifting device and equipment training in the Code 500 Safety Plan, with NASA oversight.</li> </ol> |                                                                                                                                             |

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| Finding No: 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                             |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Requirement:<br>“Managers and supervisors must understand their safety and health responsibilities and how to carry them out effectively.”  |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                             |
| There appears to be no plan to assess what learning experiences may be needed to enable WFF managers (new managers, in particular) to manage safety in their organization or to provide training to managers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                             |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                             |
| Not all managers are familiar with their responsibilities under federal OSHA, and there is little, if any, evidence of training in safety management or the broad aspect of NASA safety programs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                             |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                             |
| <ol style="list-style-type: none"> <li>1. Develop a plan for continuing manager safety education based on joint assessment by SMA with Directorate leadership, documented in the safety training matrix and program plan.</li> <li>2. Request one or more SMA-recommended NSTC courses, assigning high priority, and promote registration at Executive Safety Council meetings to ensure adequate enrollment to avoid cancellation.</li> <li>3. Schedule a series of SMA briefings covering managers’ responsibilities under federal OSHA, NASA, and WFF policy guidelines as well as OSHA expectations for VPP (consider the annual Safety Awareness campaign as an opportunity.)</li> <li>4. Promote awareness of the human aspects of occupational safety in a world focused on engineering aspects of mission safety.</li> </ol> |                                                                                                                                             |

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| Finding No: 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                             |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.c                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Requirement:<br>“Managers and supervisors must understand their safety and health responsibilities and how to carry them out effectively.”  |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                             |
| Not all supervisors are aware of their responsibilities under federal OSHA.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                             |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                             |
| <p>WFF supervisors may not have systematically received the training specified by federal OSHA, including:</p> <ul style="list-style-type: none"> <li>• Responsibility for providing and maintaining safe and healthful working conditions</li> <li>• Agency occupational safety and health program</li> <li>• Executive Order 12196</li> <li>• 29CFR1960</li> <li>• Section 19 of the Occupational Safety and Health Act</li> <li>• OSHA standards applicable to the workplace</li> <li>• Agency procedures for reporting hazards</li> <li>• Agency procedures for reporting and investigating allegations of reprisal</li> <li>• Agency procedures for abatement of hazards</li> <li>• Other appropriate rules and regulations</li> <li>• How to recognize and eliminate occupational safety and health hazards (NASA also expects supervisors to understand system safety and risk management – see NPG 8715.3C)</li> <li>• Skills in managing the safety and health program within the work unit</li> <li>• Training and motivation of subordinates toward assuring safe and healthy work practices</li> </ul> <p><b>Note:</b> To qualify for VPP Star, federal worksites are expected to comply with 29CFR1960.</p> |                                                                                                                                             |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                             |
| <ol style="list-style-type: none"> <li>1. Assess supervisors’ safety training needs, based on JHAs performed by their employees and hazards of related contractor work. Document, along with the requirements applicable to their group of employees, in a requirements matrix created as a part of the Safety Training Program Plan.</li> <li>2. Provide training in fulfillment of federal OSHA requirements listed above. Clearly communicating supervisor responsibilities under NASA and WFF policies and procedures.</li> <li>3. Select GSFC or other safety management courses from the list of SATERN web-based training for addition to supervisors’ annual SATERN learning plans.</li> <li>4. Schedule a series of supervisors’ SMA briefings covering federal OSHA, VPP, and their specific safety responsibilities at WFF. The annual Safety Awareness campaign may be a good opportunity for this training. Also post this information on a SMA web site for supervisors.</li> </ol>                                                                                                                                                                                                                        |                                                                                                                                             |

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| Finding No: 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                               |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                           |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Requirement:<br>“New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                           |
| The New Employee Safety and Health Orientation may need additional coverage of the contents of the federal Occupational Safety and Health Act, with emphasis on employee rights and responsibilities.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                           |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                           |
| WFF SMA provides only a very brief new employee safety orientation that does not appear to cover many of the required fundamentals.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                           |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                           |
| <p>Ensure that the New Employee Safety Orientation includes::</p> <ul style="list-style-type: none"> <li>• Executive Order 12196 and employee rights and responsibilities under the federal OSH Act</li> <li>• Hazards at the site (include facility features, weather, hazardous areas, with photos/maps)</li> <li>• Protective measures</li> <li>• Emergency procedures</li> <li>• Two or more ways to report hazards within the WFF management system, plus NSRS</li> <li>• NASA safety policy and goal of zero occupational illness and injury</li> <li>• NASA discipline policy for unsafe actions</li> <li>• Awareness level instruction for electrical safety, hazard communication, fire extinguisher use policy, lockout/tagout, etc.</li> <li>• Add VPP content when Star participation is announced.</li> </ul> <p>Consider providing a handout with safety policies, general rules, and contacts for safety training and programs, or directions to the SMA web site containing this information.</p> <p>Consider adding visual appeal (color, photos, maps, charts) to the presentation.</p> |                                                                                                                                                                                                           |

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| Finding No: 11                                                                                                                                                                                                                                                                                                                                                                                       | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                               |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                           |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.1.d                                                                                                                                                                                                                                                                                                                                       | Requirement:<br>“New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                           |
| Not all new employees are receiving the SMA safety orientation.                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                           |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                           |
| There appears to be no systematic process for ensuring that all new employees (including interns, detailees, customer project personnel, etc.) receive the SMA provided safety orientation. The class is scheduled once a month, and is attended by employees whose supervisors inform and enable them. Employees with conflicting schedule, or who are supervised by Greenbelt, may miss the class. |                                                                                                                                                                                                           |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                           |
| <ol style="list-style-type: none"> <li>1. Add New Employee Orientation to the supervisor’s checklist for new employees.</li> <li>2. Establish a policy and process to provide this orientation to interns, detailees, and other visitors who do work at the facility.</li> <li>3. Consider providing this orientation to on-site support contractors.</li> </ol>                                     |                                                                                                                                                                                                           |

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| Finding No: 12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                               |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                           |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.1.d                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Requirement:<br>“New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                           |
| There exists systematic a New Employee Checklist for supervisors’ workplace orientation, but it does not appear to cover all those safety aspects related to their specific assignment and location and does not establish a training record.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                           |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                           |
| <p>New employee orientation should not be considered complete until the supervisor has instructed the employee in those health and safety aspects related to their specific assignment and job location. At a minimum this should include:</p> <ul style="list-style-type: none"> <li>• Hazards of jobs and tasks</li> <li>• Safe and healthful work practices, policies and procedures</li> <li>• Hazards of the work environment</li> <li>• PPE – when it is needed, what is needed, and how to use and care for it</li> <li>• Emergency procedures including evacuation routes, assembly area, etc.</li> <li>• Methods for reporting mishaps, injury, illness and hazardous conditions</li> <li>• Safety and health standards applicable to the work environment</li> </ul> <p>Some of these elements, and also assessment of the individual’s safety training needs, can be achieved by reviewing applicable JHAs.</p> |                                                                                                                                                                                                           |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                           |
| <ol style="list-style-type: none"> <li>1. Upgrade the New Employee Checklist to include those safety aspects related to their specific assignment and job location, including review of applicable JHAs and training needs assessment (see example in Appendix C).</li> <li>2. Add employee and supervisor signatures and dates to the New Employee Checklist to create a training record, retained in personnel files.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                           |

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| Finding No: 13                                                                                                                                                                                          | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                               |
| <b>Requirement</b>                                                                                                                                                                                      |                                                                                                                                                                                                           |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.d                                                                                                                                          | Requirement:<br>“New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.” |
| <b>Finding</b>                                                                                                                                                                                          |                                                                                                                                                                                                           |
| Not all employees with Range access badges have attended the Range Safety Entrance Briefing, as required.                                                                                               |                                                                                                                                                                                                           |
| <b>Finding Details</b>                                                                                                                                                                                  |                                                                                                                                                                                                           |
| No further detail.                                                                                                                                                                                      |                                                                                                                                                                                                           |
| <b>Recommended Action</b>                                                                                                                                                                               |                                                                                                                                                                                                           |
| Implement a process for ensuring that Briefing attendance precedes Range entry badging. An accessible database with attendance lists posted following each monthly class would facilitate verification. |                                                                                                                                                                                                           |

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| Finding No: 14                                                                                                 | Type of Finding: <input type="checkbox"/> Deficiency <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                               |
| <b>Requirement</b>                                                                                             |                                                                                                                                                                                                           |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.d                                                 | Requirement:<br>“New employee orientation/training must include, at a minimum, discussion of hazards at the site, protective measures, emergency evacuation, employee rights under the OSH Act, and VPP.” |
| <b>Finding</b>                                                                                                 |                                                                                                                                                                                                           |
| Construction contractors are not receiving from SMA the site safety orientation required by OSHA.              |                                                                                                                                                                                                           |
| <b>Finding Details</b>                                                                                         |                                                                                                                                                                                                           |
| This deficiency is being addressed by the current SMA Construction Safety manager. A course is in development. |                                                                                                                                                                                                           |
| <b>Recommended Action</b>                                                                                      |                                                                                                                                                                                                           |
| Initiate construction contractor site safety briefings as soon as possible. Maintain records as evidence.      |                                                                                                                                                                                                           |

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| Finding No: 15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                              |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                          |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.e                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Requirement:<br>Training should be provided for all employees regarding their responsibilities for each type of emergency. Managers, supervisors, and non-supervisory employees, including contractors and visitors, must understand what to do in emergency situations. |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                          |
| Not all personnel are familiar their building's Emergency Action Plan (EAP).                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                          |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                          |
| <p>The new E109 is the only building where the sampled employees were aware of an Emergency Action Plan.</p> <p>Evidence of training for Facility Operations Managers (FOM) is lacking. FOMs reported waiting for several years for updated EAPs, which will be the basis for future emergency preparedness training.</p> <p>No evidence was found of training for building evacuation monitors who are listed in the EAPs.</p> <p>Fire extinguisher training is periodically provided, but records could not be found.</p>     |                                                                                                                                                                                                                                                                          |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                          |
| <ol style="list-style-type: none"> <li>1. When EAPs are issued, ensure that supervisors review it with their employees, and create a record of that review. Annual refresher training is highly recommended.</li> <li>2. Provide emergency guidelines and training to building evacuation monitors and FOMs.</li> <li>3. Schedule fire extinguisher training sessions and retain records in SMA files. Inform employees that where an extinguisher is provided for their use, training is prerequisite for using it.</li> </ol> |                                                                                                                                                                                                                                                                          |

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| Finding No: 16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type of Finding: <input type="checkbox"/> Deficiency <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                           |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                       |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Requirement:<br>“Persons responsible for conducting hazard analysis, including self-inspections, accident./incident investigations, job hazard analysis, etc., must receive training to carry out these responsibilities, e.g., hazard recognition training, accident investigation techniques, etc.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                       |
| It was reported that, in the past, not all participants on mishap boards had received training required by both OSHA and NASA. However, new SMA management has re-established training prerequisites for participation in mishap boards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                       |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                       |
| Prior to 2008, no Civil Servants are recorded in SATERN as having completed the NSTC Human Factors in Mishap Investigation course. However, in 2008, eleven Civil Servants completed this course. This illustrates a good start of the new management’s SMA policy to re-establish training requirements for mishap investigation, as specified in NPR 8621.1B (entitled <i>NASA Procedural Requirements for Mishap and Close Call Reporting, Investigating, and Recordkeeping</i> ).                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                       |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                       |
| <ol style="list-style-type: none"> <li>1. Continue to support a high level of preparedness for mishap board members – including the identification of recommended training and mentoring. Consider proficiency when assigning roles and responsibilities.</li> <li>2. Determine whether Safety and Risk Management professionals assigned to mishap investigation boards should receive specialist-level mishap investigation training. For example, it would be beneficial if assigned SMA mishap board members had a significant level of proficiency in the use of causal chain analysis techniques (e.g. fault tree analysis, Ishikawa diagram, etc.) in order to accurately identify underlying root causes.</li> <li>3. Ensure that the policy applies to mishap boards across all Directorates.</li> </ol> |                                                                                                                                                                                                                                                                                                       |

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| Finding No: 17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                           |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                       |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.f                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Requirement:<br>“Persons responsible for conducting hazard analysis, including self-inspections, accident./incident investigations, job hazard analysis, etc., must receive training to carry out these responsibilities, e.g., hazard recognition training, accident investigation techniques, etc.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                       |
| Very little evidence was found that non-SMA personnel with collateral safety responsibilities have been trained for their tasks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                       |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                       |
| No evidence was found that employees have received training to recognize hazards and perform self-inspections. Training to perform Job Hazard Analysis has only recently begun.<br>Personnel with collateral safety duties, including Facility Operations Managers (FOM) and Employee Safety Committee representatives, may be regarded as points of contact for safety issues, but may not be more knowledgeable than their co-workers.                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                       |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                       |
| <ol style="list-style-type: none"> <li>1. Provide FOMs with training in pertinent safety programs and requirements (regulatory and NASA) including facility hazards (e.g. asbestos), hazard awareness and self-inspections. Some of this training is available on SATERN.</li> <li>2. Provide Employee Safety Committee representatives with an overview of WFF safety management and programs, and perhaps of OSHA, enabling them to be more effective communicators of safety.</li> <li>3. Ensure that all employees with collateral safety duties and roles listed in 29 CFR 1960.58 and CSP 03-01-003 are trained for those roles, and that training records can be produced.</li> <li>4. Include training for collateral safety duties in the Safety Training Program Plan.</li> </ol> |                                                                                                                                                                                                                                                                                                       |

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| Finding No: 18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type of Finding <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                   |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.g                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Requirement:<br>“Training attendance must be documented. Training frequency must meet OSHA standards, or for non-OSHA required training, be provided at adequate intervals. Additional training must be provided when changes in work processes, new equipment, new procedures, etc. occur.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                              |
| Records of informal training may not be adequate for OSHA VPP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| Monthly safety training topics are being presented at organization meetings, but not all organizations are maintaining records that include the topic, presented, date and signatures of participants. Some of the records are held by Branch or Division chiefs, some by supervisors, and some by the presenters. Similarly, Job Hazard Analyses are apparently being reviewed, particularly in Code 500, but records are not maintained.                                                                                        |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Establish a standard method for documenting safety meetings and safety topic presentations. Ensure that the date, topic, and name of presenter are included on attendance records. Request each code to FAX attendance sheets to SMA, and create a database to maintain records listing the code, date and number of attendees.</li> <li>2. Add a signature line to Job Hazard Analyses, or record JHA training on a roster, retained by the supervisor and/or Branch Chief.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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| Finding No: 19                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Requirement:<br>“Training attendance must be documented. Training frequency must meet OSHA standards, or for non-OSHA required training, be provided at adequate intervals. Additional training must be provided when changes in work processes, new equipment, new procedures, etc. occur.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| There seems to be no systematic way to access all the training records for WFF employees, so that WFF can easily demonstrate what training has been delivered.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                              |
| Records of formal training are scattered. Employees’ personal files appear to be the most reliable source of documentation in the form of certificates. Primary records for Lifting Device Equipment training provided by support contractors reside with the contractor. Some Industrial Hygiene course records reside at Greenbelt, and records for courses delivered by Wallops SMA are stored in the Division office. Records of Cold Weather briefings are retained in project files. Documentation for training obtained from outside sources is retained by the employees. Some GPRs advise discarding records after as little as one year.                                                                                                                                        |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Develop a systematic process for collecting and documenting all safety training (outside SATERN and provided by NASA) attended by Civil Servants. Since the number of employees needing formal safety training is small, consider requesting copies of course certificates that can be compiled and recorded on a database by SMA.</li> <li>2. Establish SMA training files separate from other business, organized by date and course, in a dedicated location.</li> <li>3. Establish a database of SMA-sponsored training events.</li> <li>4. Obtain IT and administrative support necessary to maintain safety training records ready for OSHA review.</li> <li>5. Retain safety training records for the duration of employment.</li> </ol> |                                                                                                                                                                                                                                                                                              |

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| Finding No: 20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Requirement:<br>“Training attendance must be documented. Training frequency must meet OSHA standards, or for non-OSHA required training, be provided at adequate intervals. Additional training must be provided when changes in work processes, new equipment, new procedures, etc. occur.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                              |
| SATERN, the official site for safety training records, is not being used by supervisors to track employees training or by SMA to create reports needed to evaluate participation and trends.                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                              |
| <p>Few supervisors appear to know how to use SATERN to track their employees’ training.</p> <p>No one was found at WFF with the ability or authority to create the type of training reports that may be required by OSHA For VPP.</p> <p>Reports that were provided by the GSFC SATERN administrator contained errors that could make metrics suspect and primarily served to illustrate that very little of the training offered through SATERN is available to or used by WFF employees.</p> <p>Some supervisors maintain independent databases to track employee training.</p> |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Inform supervisors about the SATERN tutorial, and encourage them to generate employee reports.</li> <li>2. Request SMA access and authorization to enter data and to create comprehensive learning histories and course reports.</li> <li>3. Request addition of WFF classroom sessions and web-based training modules to SATERN so it can become a single resource for tracking.</li> <li>4. Utilize the SafeTrain web page (in development) if and when it becomes functional and suitable for WFF.</li> </ol>                        |                                                                                                                                                                                                                                                                                              |

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| Finding No: 21                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Type of Finding: <input type="checkbox"/> Deficiency <input checked="" type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                                                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.g                                                                                                                                                                                                                                                                                                                                                                                                                              | Requirement:<br>“Training attendance must be documented. Training frequency must meet OSHA standards, or for non-OSHA required training, be provided at adequate intervals. Additional training must be provided when changes in work processes, new equipment, new procedures, etc. occur.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                              |
| Training schedules are separately controlled by the providing organizations, making it difficult to get an overview of when and at what intervals training is provided.                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                              |
| Recertification dates drive training schedules for Lifting Device Equipment. Some Industrial Hygiene classes (e.g., Respiratory Protection), which apply to a very small number of civil servants, are scheduled by direct communication with Greenbelt. NSTC classes are scheduled for each year on SATERN. SMA is developing schedules for classes including New Employee Orientations, ESD and JHA. For training driven by projects, availability remains more important than schedules. |                                                                                                                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                              |
| Compile schedules, frequency information and contact information from all providers and post appropriate information on the SMA web site.                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                              |

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| Finding No: 22                                                                                                                                                                                                                                                                                                                                                                                         | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                                                          |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                      |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.h                                                                                                                                                                                                                                                                                                                                         | Requirement:<br>“Training curricula must be up-to-date, specific to worksite operations, and modified when needed to reflect changes and/or new workplace procedures, trends, hazards and controls identified by hazard analysis...” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                      |
| There appears to be no defined responsibility or process for NASA’s periodic review, approval and update of health and safety curriculum.                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                      |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                      |
| No further detail.                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                      |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                      |
| <ol style="list-style-type: none"> <li>1. Establish the responsibility and authority within SMA for periodic review and approval of WFF on-site classroom curriculum in a Safety Training Program Plan.</li> <li>2. Establish a process for identifying relevant lessons learned and communicating these to course owners, with course update information, and review of revised materials.</li> </ol> |                                                                                                                                                                                                                                      |

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| Finding No: 23                                                                                                                                                                                      | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice |
| <b>Requirement</b>                                                                                                                                                                                  |                                                                                                                                             |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.i                                                                                                                                      | Requirement:<br>“Persons who have specific knowledge or expertise in the subject area must conduct training.”                               |
| <b>Finding</b>                                                                                                                                                                                      |                                                                                                                                             |
| There appears to be no defined responsibility for NASA’s review and approval of instructor proficiency for health and safety classes offered to WFF personnel.                                      |                                                                                                                                             |
| <b>Finding Details</b>                                                                                                                                                                              |                                                                                                                                             |
| No further detail.                                                                                                                                                                                  |                                                                                                                                             |
| <b>Recommended Action</b>                                                                                                                                                                           |                                                                                                                                             |
| Establish the responsibility and authority within SMA for review and approval of instructor proficiency for health and safety classes offered to WFF personnel in the Safety Training Program Plan. |                                                                                                                                             |

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| Finding No: 24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Type of Finding: <input checked="" type="checkbox"/> Deficiency <input type="checkbox"/> Observation <input type="checkbox"/> Best Practice                                                  |
| <b>Requirement</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                              |
| Document / Paragraph:<br>CSP 03-01-003<br>Chapter III.II.C.4.j                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Requirement:<br>“Where personal protective equipment (PPE) is required, employees must understand that it is required, why it is required, its limitations, how to use it, and maintenance.” |
| <b>Finding</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                              |
| Not all personnel who need PPE appear to have been identified and trained.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                              |
| <b>Finding Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                              |
| Some Civil Service personnel who work in high hazard areas appear to be using appropriate PPE, but not because they have received the relevant PPE training.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                              |
| <b>Recommended Action</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                              |
| <ol style="list-style-type: none"> <li>1. Establish policies and guidelines for the use of PPE. Re-evaluate PPE requirements for entry into hazardous environments and personnel who work in those environments and assess their training needs.</li> <li>2. Provide appropriate PPE training in compliance with OSHA standards.</li> <li>3. Provide awareness level PPE training for personnel who may visit hazardous environments.</li> <li>4. Document PPE requirements on Job Hazard Analyses and utilize JHA review by affected employees for PPE training. Maintain a training record (e.g. signature line indicating who was trained, the trainer, and date.).</li> </ol> |                                                                                                                                                                                              |