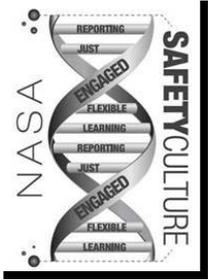


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# NASA's Safety Culture Program: Methodology and Initial Results

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Safety Culture Manager  
HQ / OSMA  
Sept 6, 2012



# Agenda



- 
- Safety Culture Program (SCP) 4 Components
    - Organize
    - Assess
    - Educate
    - Engage



## Organize:

# Respect and learn from NASA history

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- Engineering, science and exploration focused organization
  - Evolving, recently much more “acquisition” focused
- Engaged in organizational “looks” throughout it’s history
  - Formal and informal
  - Internal and external
- Enjoyed great successes....and some failures
- Challenged by oversight groups after Columbia mishap to focus more on safety culture
- Several decentralized efforts occurred between 2004-2008
- HQ Office of Safety and Mission Assurance created dedicate Safety Culture Program Manager to create, implement and manage a comprehensive Safety Culture program



# Organize: The SCP beginnings.....

- A Comprehensive Program
  - Survey Does NOT = Safety Culture Change
- Safety Culture Working Group (SCWG)
  - POCS from each of the 10 Centers
- SCP Charter
  - Defines purpose, goals, procedures, products, and SCWG membership
- Includes Safety Culture Assessments
  - Need for Agency-wide Safety Culture Survey (SCS)

National Aeronautics and Space Administration  
August 20, 2009  
Safety Culture Working Group

## 1.0 Purpose

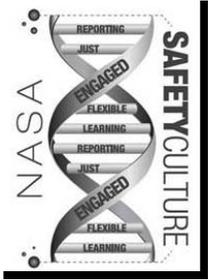
This charter sets forth the purpose, goals, procedures, products, membership and renewal of the Safety Culture Working Group (SCWG). NASA strives to improve its safety culture agency-wide. Previous separate initiatives have led to improvements in some areas. A coordinated, integrated focus and supporting set of tools is needed. This working group will review, assess, monitor, and track strategic safety culture activities at the agency and center levels to ensure long term benefits for all NASA institutions, programs, and employees.

## 2.0 Goals

- a. Promote safety culture improvement within the agency at all levels.
- b. Support harmonious assessment of NASA's safety culture.
- c. Educate NASA's workforce at all level on safety culture.
- d. Consult to management and leadership on safety culture efforts.
- e. Review and recommend safety culture improvement and training tools.
- f. Support safety culture improvement activities in the agency.
- g. Collaborate with other groups involved in safety culture improvements.
- h. Identify and address issues of common concern between and within groups
- i. Offer education and training to develop safety culture expertise within the SCWG.
- j. Involve all members within NASA; including but not limited to government employees, contractors, program and project representatives, and unions.

## 3.0 Procedures

- a. Function in an advisory capacity to the Chief of OSMA. The SCWG Chair will report annually to the Chief of OSMA on SCWG status and accomplishments, including current and future projects and strategic objectives.
- b. Maintain SCWG Meeting Minutes.
- c. Assign and track SCWG action items.
- d. Monitor the Agency safety culture via survey.
- e. Review annual survey results, and make agency level recommendations
- f. Make recommendations for survey modification changes as appropriate
- g. Review, analyze, and incorporate useful items/concepts from other (e.g. industry, government) safety culture survey improvement tools
- h. Facilitate education, lessons learned and information sharing in areas of mutual interest between center personnel and leadership
- i. Advise Center leadership and S & MA when requested
- j. Review NASA guidance (e.g. NPR's) and make suggestions/recommendations incorporating appropriate safety culture guidance



# Organize: SCP fundamentals

- Organize
  - Charter
  - SCWG
  - Vision
  - Model
  - Definition
  - Guidance
    - 8700 (d) It is NASA policy to encourage support and monitor programs, activities, and events that strengthen and sustain a healthy safety culture at NASA

- NASA's Safety Culture definition  
NASA STD 8709.22

Safety Culture is the value placed on safety as demonstrated by people's behavior. It is the way safety is perceived, valued and prioritized in an organization. It reflects the commitment to safety at all levels in the organization. It has also been described as "how an organization behaves when no one is watching". Safety culture is expressed and observed via individual and group attitudes and behavior; and organizational processes.



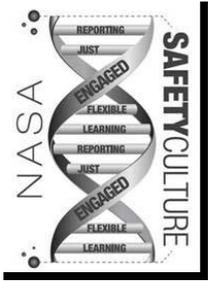


# Organize:

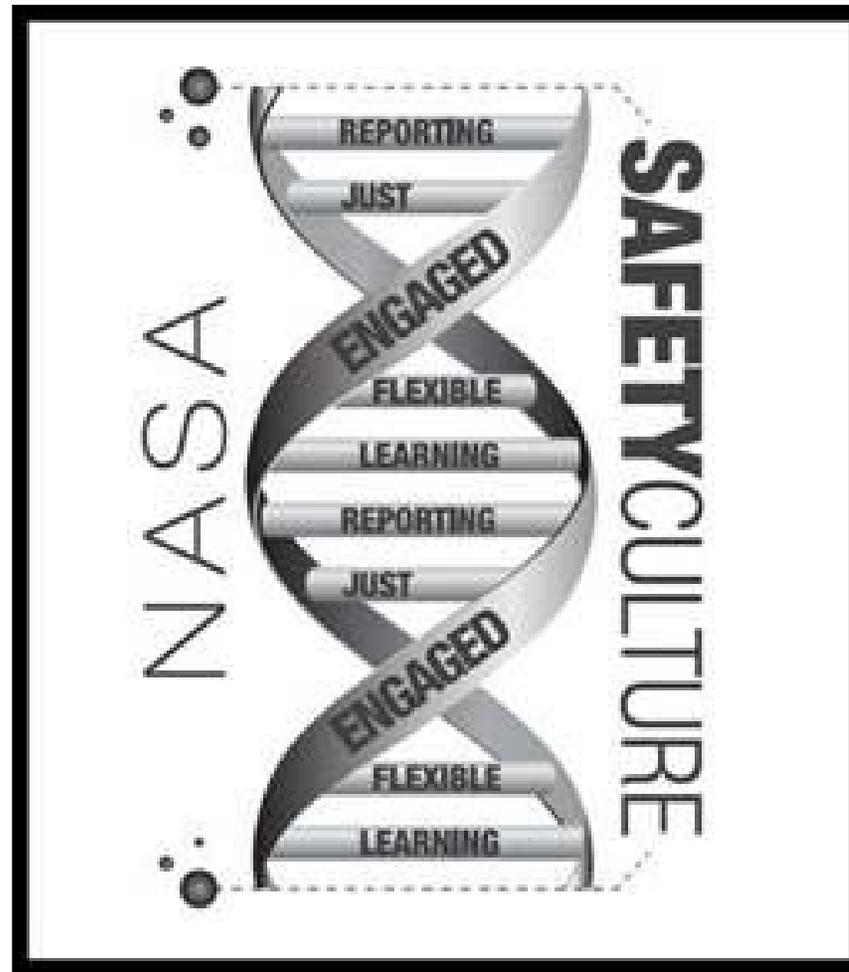
## Safety Culture Working Group (SCWG) Vision



**An environment characterized by safe attitudes and behaviors, modeled by leaders, and embraced by all, that fosters an atmosphere of open communication, mutual trust, shared safety values and lessons, and confidence that we will balance challenges and risks consistent with our core value of safety to successfully accomplish our mission**



“All models are wrong ...  
but some are useful” George Box





Organize:



## NASA's 5-Factor Safety Culture Model

- We communicate our concerns without fear (Reporting Culture)
- We treat each other fairly (Just Culture)
- We adapt to meet challenges (Flexible Culture)
- We learn from our successes and mistakes (Learning Culture)
- We all do our part (Engaged Culture)
  - Important evolution of the model
  - Consistently scored as most important factor of the model

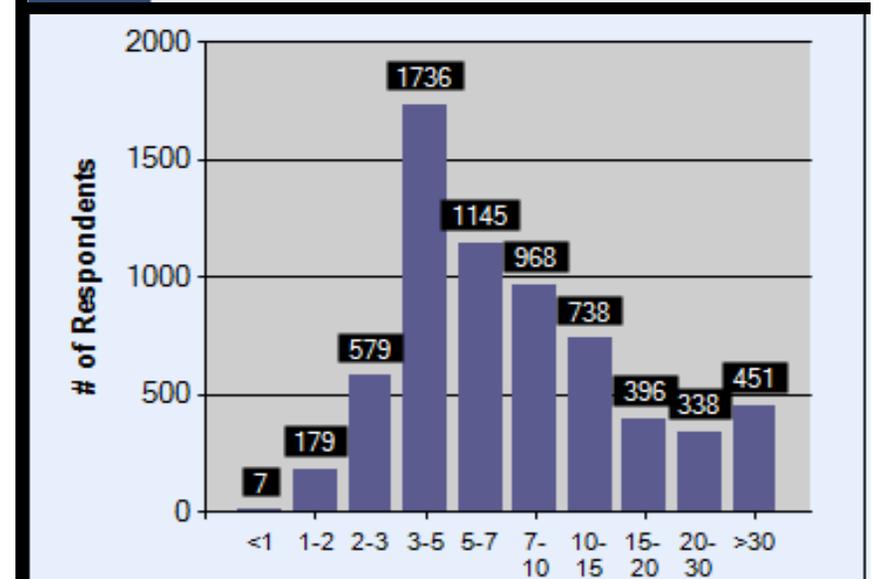


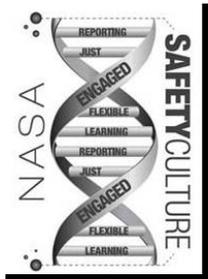
# Assess:

## The Safety Culture Survey (SCS)

- First – Reviewed theories, surveys, and options
  - NASA 5-Factor Model
  - 20 Agency questions
  - 2-5 Center Specific questions
  - Quick
  - Easy access
  - Open ended feedback
    - This is where the real “meat” appears

[HTTPS://WWW.NASASCS.ORG](https://www.nasascs.org)



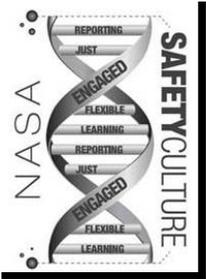


# Assess: The SCS Process

- Center POC & teams
- Rolling participation on 3 year schedule
- Center CD out-brief
  - Includes
    - Data,
    - Analysis
    - Feedback trends,
    - Way ahead
    - Closing the look
- HQ outbrief at midpoint and conclusion of R1

- SCS checklist
- Days prior
- 90 Select timeframe/dates
    - Media/PA awareness/support
    - SHED or planning group strategy sessions
    - Brief leadership/executive councils etc
    - Union liaison coordination
    - POC reviews SCS website
    - Consider Onsite computers/set-up central location
    - Workup center specific questions
  - 45 Questions to HQ
  - 14 Review site for accuracy
  - 7 PA/ media posters up
  - 3 Open survey
  - 0 Announcements out
  - 1 POC and center S&MA team take survey
  - 2 Letter from CD with link
  - 10 Reminder
  - 14 Close out
  - 15-30 Analysis
  - 30-45 Briefing prep/recommendations
  - 45-60 CD out brief
    - Close the Loop
      - CD email 1) thanking 2) summarizing 3) next steps
      - In paper
      - Brief SR staff/exec
      - Brief union
      - Use results in safety day
      - All-hands
      - ETC
  - 61 Email from COSMA to CD for feedback
  - 60-120 Implement recommendations/ corrective actions

Anticipate that our phone calls and emails will increase to “daily” about a week prior and at the beginning of the analysis. Contact then becomes episodic until the outbrief and follow-up. The timeframe is notional – has been compressed, successfully, in the past.



# Assess: NASA SCS Agency Profile

What is this page

## Summary Graph

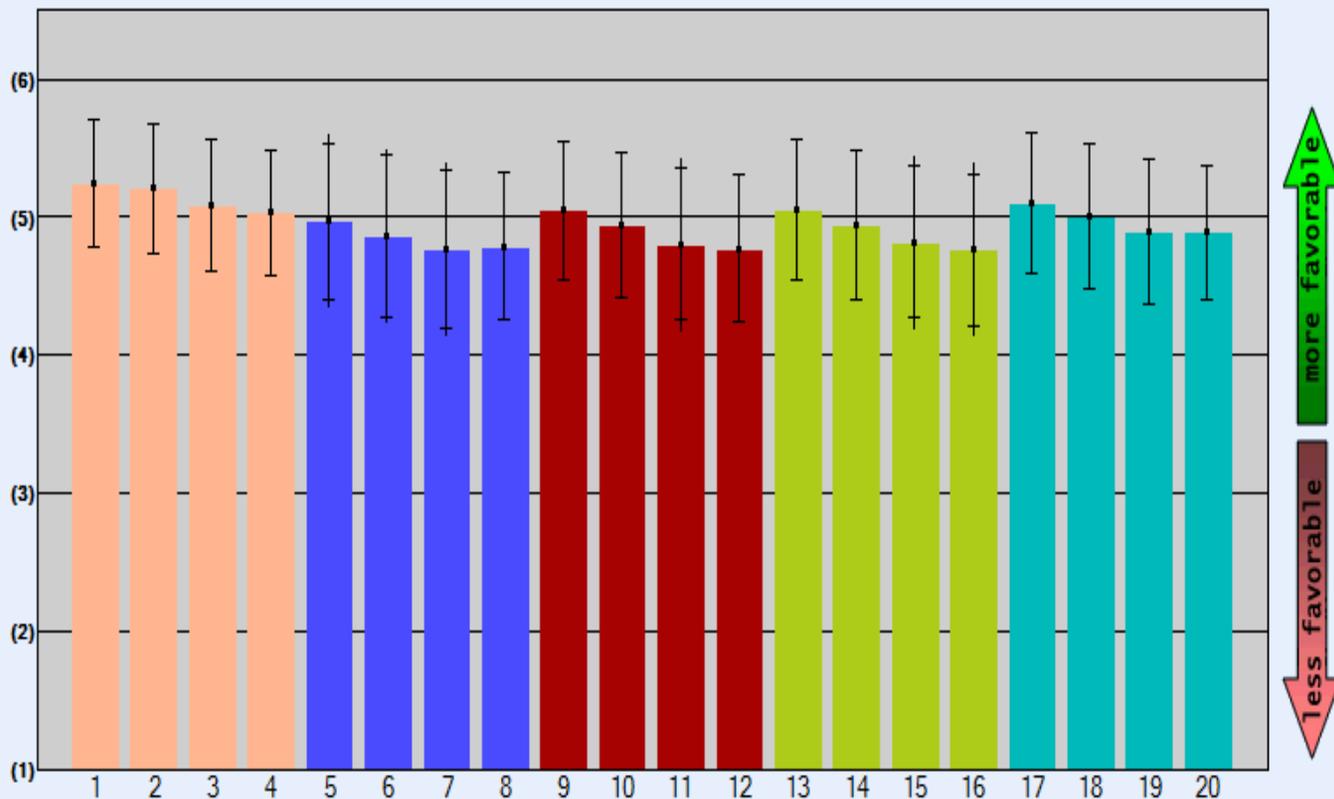
NASA HQ - NASA-SCS Survey: (Apr 2012)

Graph Of Mean Scores For All Items Compared With Mean And Standard Deviation of The Comparison Set

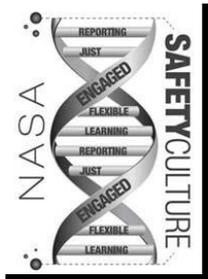
Graph of 10,932 Respondents

Background Comparison (black dots) is 10,932 Respondents

(click a bar to see respondent details for that item)



- Our benchmark
- 10,932
- Centers & HQ
- 12/2009-4/2012
- 5 on 6 pt scale
- Slight step-down profile



# Assess: NASA SCS Sample





## NASA Safety Culture Survey

This sample survey has variations based on:  
 Center:

**PURPOSE:**  
This survey provides basic feedback to your Center Director on your Center's safety culture with the goal of preventing incidents from occurring.

**SURVEY INSTRUCTION:**

- Please read the short description of each component of safety culture (Reporting, Just, Flexible, Learning, and Engaged), then select the responses that most accurately match your perceptions.
- Comment blocks are available for each question (400 words max. for each, and 600 words max. for the open-ended items at the end).
- When you are done, click the Submit button. A "Thank You" note will let you know you have successfully completed the survey.
- An individual must be free to respond without fear of reprisal, whether the fear is real or perceived. Without this, the data gathered may be inaccurate and of minimal use.

- Data analysis will not include individual scores or identify individuals.
- We welcome comments, and will keep them word for word, (inappropriate language may be modified or removed.)

Please complete the information below. You may select "I choose not to answer" except for Your **AFFILIATION** and Your **DEPARTMENT**. However, completing each demographic allows meaningful survey analysis.

Your **AFFILIATION**:

Your **DEPARTMENT** (Directorate):

Your **OCCUPATION**:

Your **LEVEL**:

**YEARS** at your Center (Civil Service or Contractor):

**Reporting Culture: We report our concerns.** Identification of hazards or safety concerns is encouraged, including a system that's easy to use. The reporting system maintains anonymity and is separate from the disciplinary processes. Useful feedback based on reporting is quick and insightful. An atmosphere of trust exists between managers and workers, with employees knowing important information will be voiced, heard, and acted on appropriately.

**1. Please rate your Immediate work area with respect to its Reporting Culture.**

<input type="radio"/>							
Very Dissatisfied	Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Satisfied	Very Satisfied	Don't Know	

Enter any comment here:

**2. Please rate your Department with respect to its Reporting Culture.**

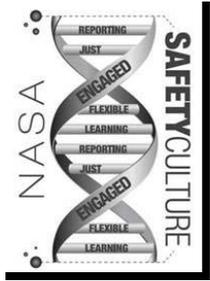
<input type="radio"/>							
Very Dissatisfied	Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Satisfied	Very Satisfied	Don't Know	

Enter any comment here:

**3. Please rate your Center with respect to its Reporting Culture.**

<input type="radio"/>							
Very Dissatisfied	Dissatisfied	Slightly Dissatisfied	Slightly Satisfied	Satisfied	Very Satisfied	Don't Know	

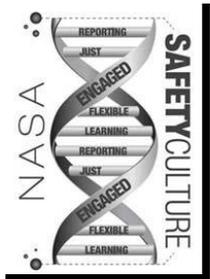
Enter any comment here:



# Assess: Round 1 Takeaways



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- Need for leaders to maintain awareness
  - Occupational differences
  - Commenters versus non-commenters
    - I Choose Not To Answer (ICNTA) looks similar
  - Workspace “Pockets”
  - Feedback – not for the faint-hearted
    - Differentiating “noise” from real problems is difficult ....remembers Diane Vaughan’s “weak signals” .....
    - Takes time to read
    - Takes more time to digest
    - Takes even more time to decide what to do, implement and evaluate effectiveness

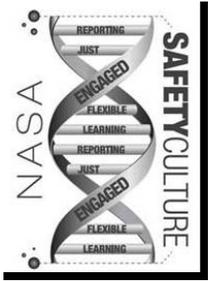


# Assess: SCS Status

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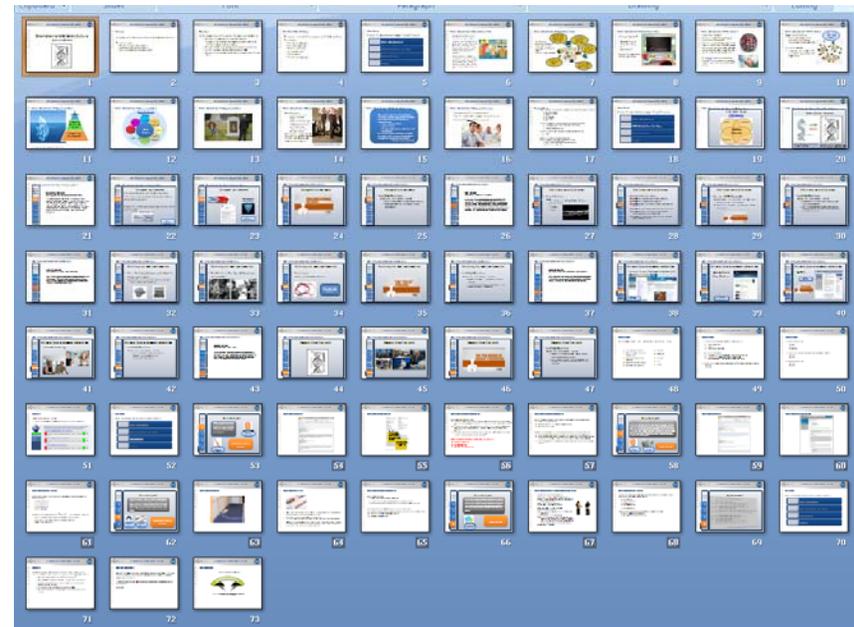


- Round 1 completed
  - Overall favorable feedback from Center Directors
    - Tool and Process
  - All working to “close the loop” and implement recommendations
  - HQ is watching with interest
- Round 2 started July 2012
- Anticipate a 2-3 year cycle
- SCS is one part of the SCP
  - Add on the Educational component to R2 in 2012



# Educate: First Steps

- Educate
  - Orientation Course
  - Supervisor Course
  - Step Course
  
  - Web based
  - Individual or Group
  - Beginning Fall 2012





# NASAs recent path...in a nutshell...

- Making progress
- Still a long way to go
- Strong leadership that understands and encourages need for BOTH technical and cultural excellence





# Thanks for listening!



- **Questions?**
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