GSFC
Supplier Assessments

Analysis of Findings and Achieving Compliance

Charlie Robinson
Quality Assurance and Risk Management Services, Inc.

Brenda Brunello
Honeywell Technology Solutions, Inc.

October 14, 2009

Top 16 Problem Areas
January 2008 – YTD

DC = Document Control
C = Contracts
P = Purchasing & Supplier Control
CA = Calibration
SI = Safety, Industrial
T = Training
GP = GIDEP
ED = Engineering Design
R = Records
M = Management
AI = Internal Audits
ES = Electrostatic Discharge
Q = Quality
NC = Nonconforming material
CM = Configuration Management
MC = Material Control

0% 10%20%30%40%50%60%70%80%90%
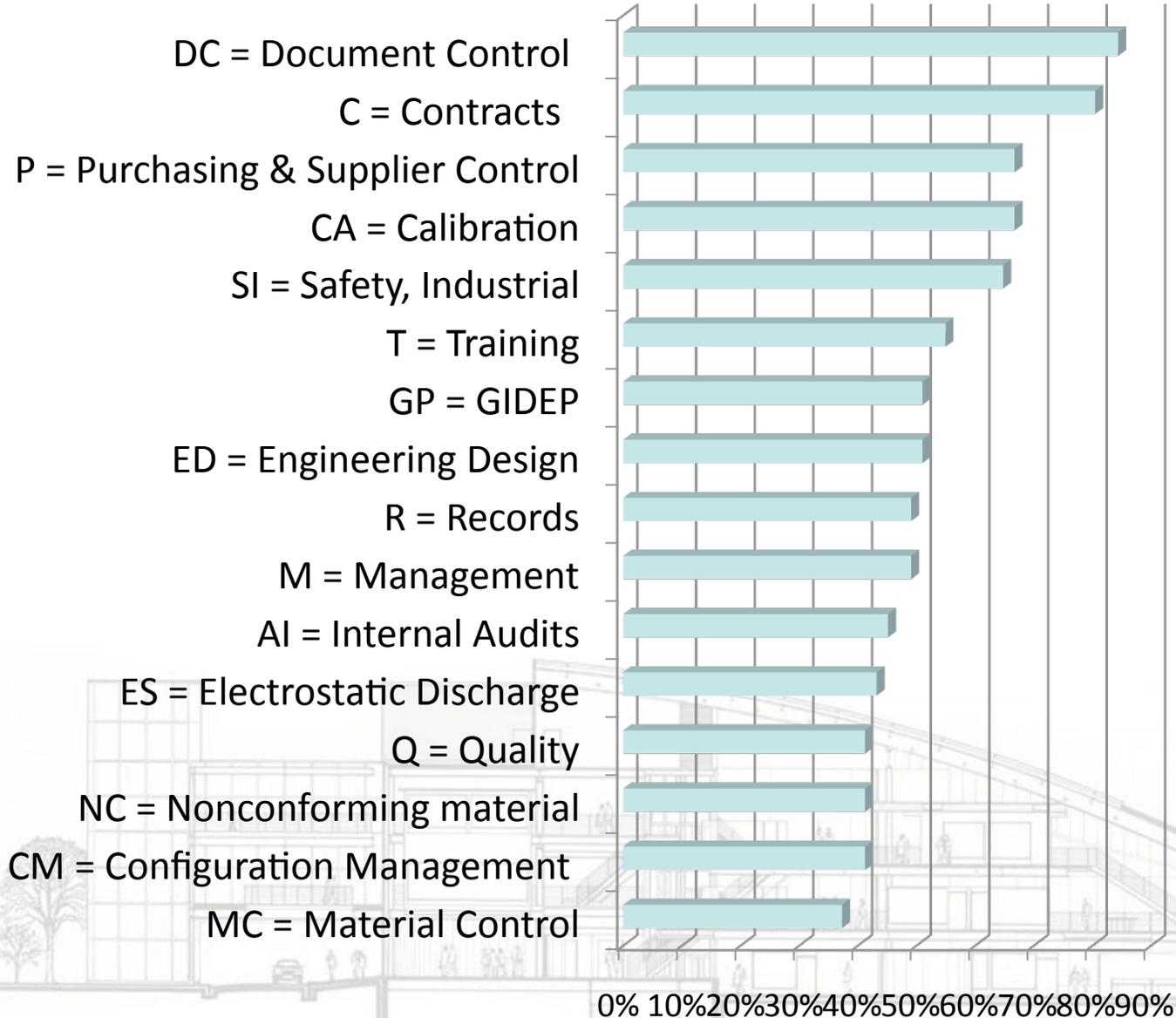
Percentage of Assessments With These Categories of Findings

NASA SAFETY CENTER

Percentage of Findings

DC = Document Control
C = Contracts
P = Purchasing & Supplier Control
CA = Calibration
SI = Safety, Industrial
T = Training
GP = GIDEP
ED = Engineering Design
R = Records
M = Management
AI = Internal Audits
ES = Electrostatic Discharge
Q = Quality
NC = Nonconforming material
CM = Configuration Management
MC = Material Control

0%   2%   4%   6%   8%   10%   12%   14%
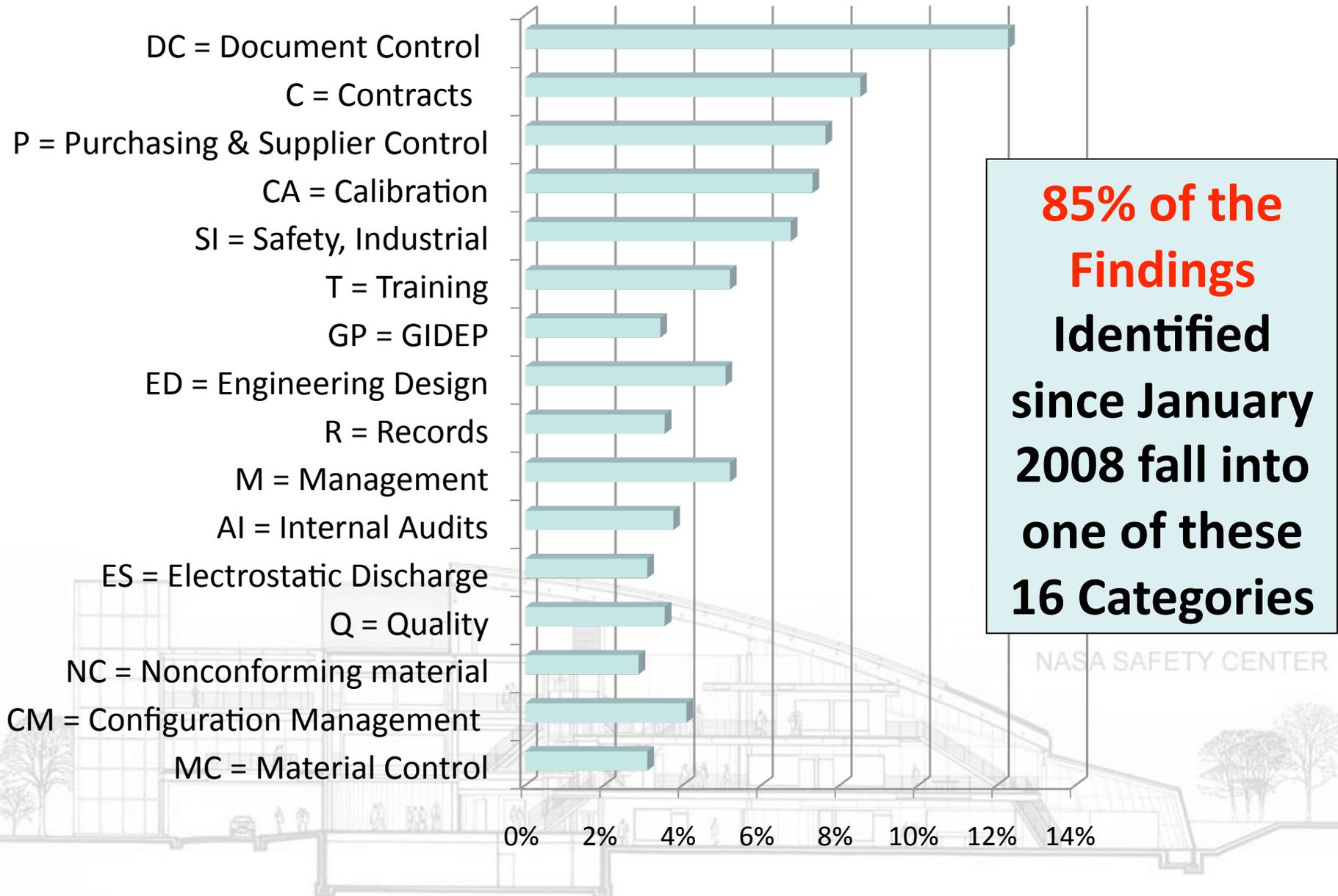
85% of the Findings Identified since January 2008 fall into one of these 16 Categories

NASA SAFETY CENTER

Percentage of Assessments & Findings
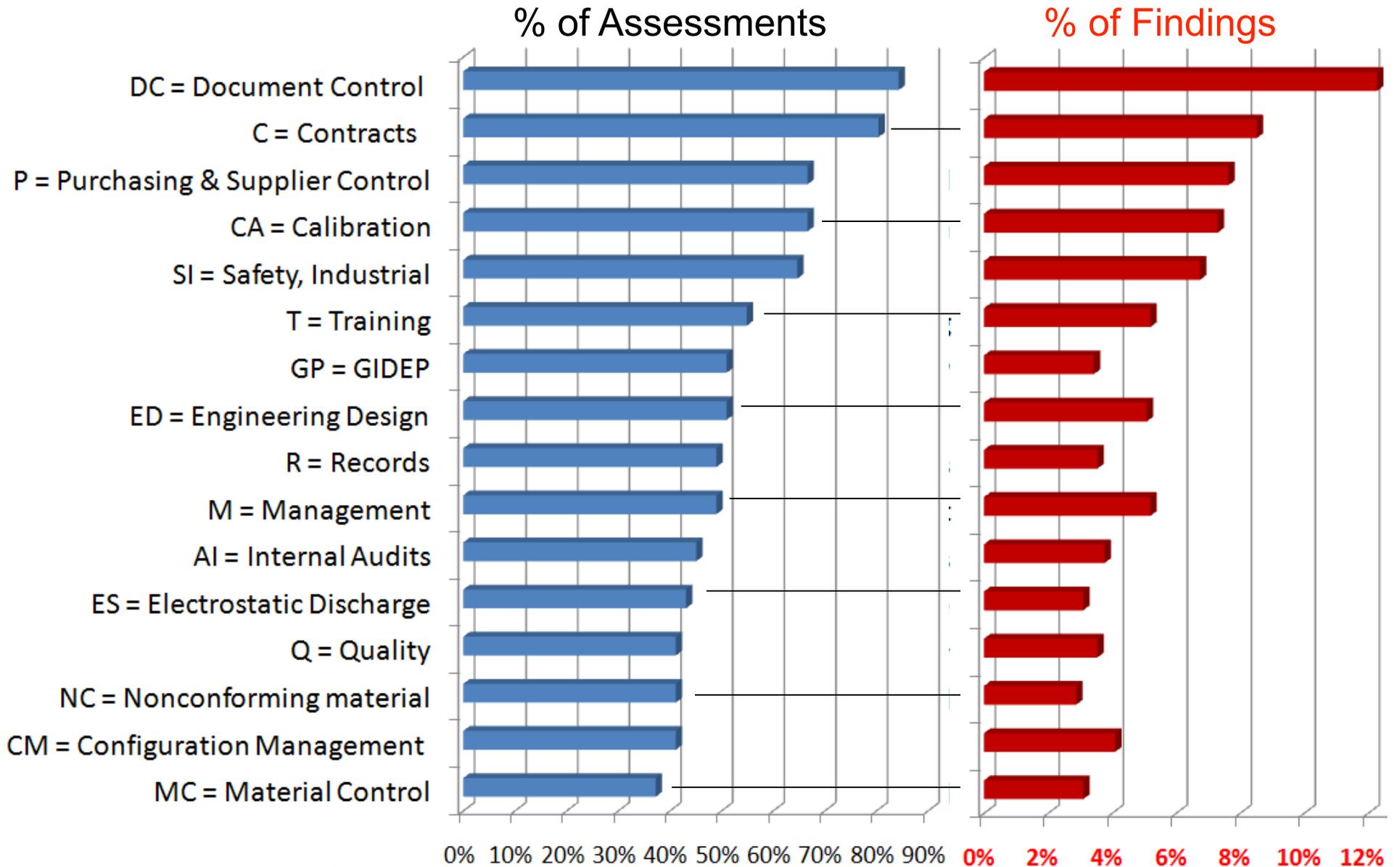
Top Nine (9) Categories

Finding Codes that have been issued on
≥49% of the Assessments since JAN 2008
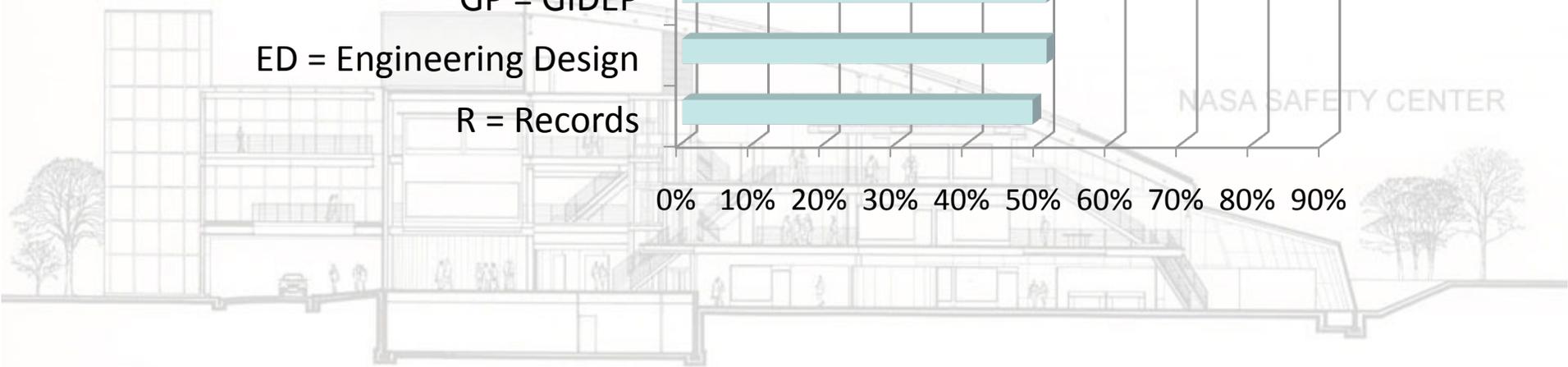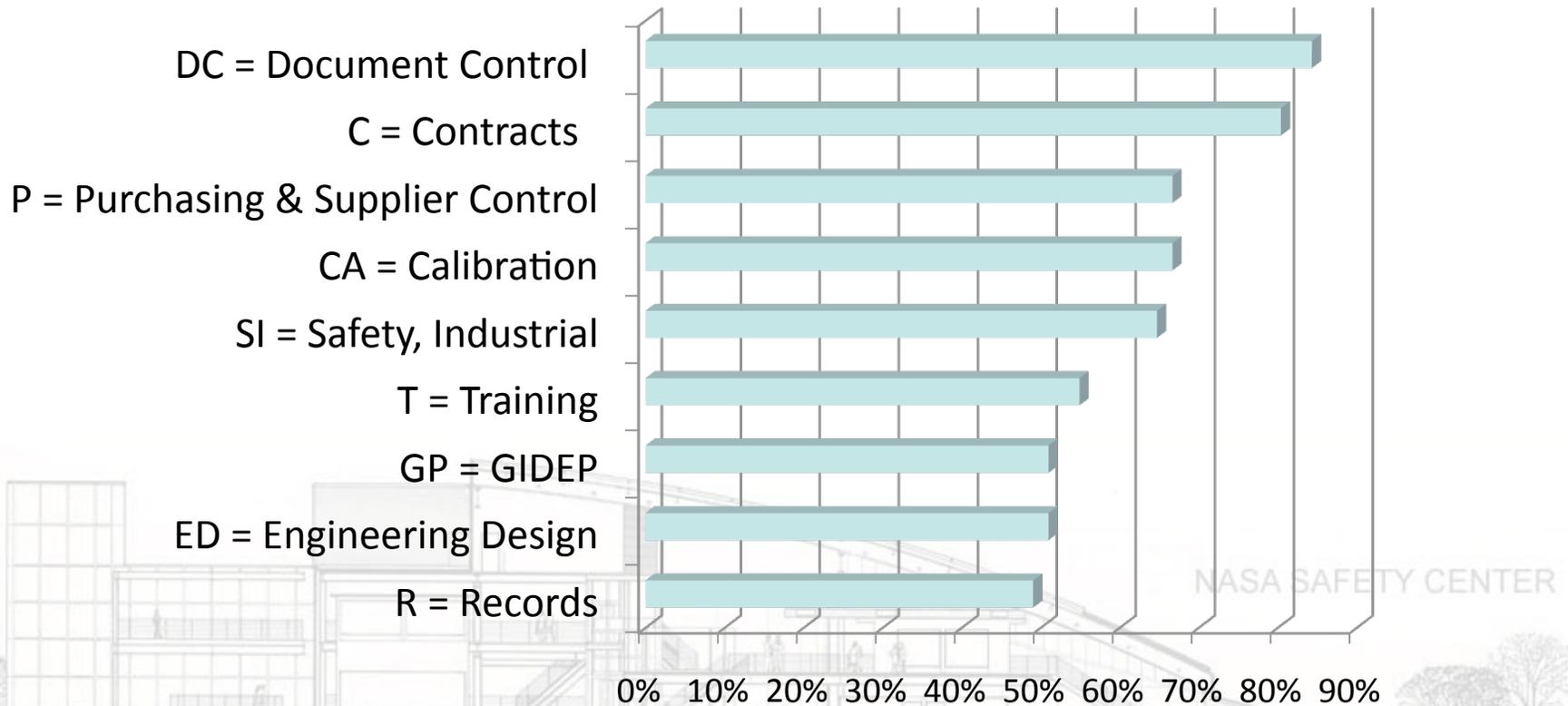
➢ **Document Control** – Not following procedures, obsolete references, procedure does not reflect what is actually being done

➢ **Contracts – Flow down of contractual requirements within the organization not adequately managed**

➢ **Procurement** – 46% Purchasing Process, 37% Purchasing Information, 17% Receiving Inspection

➢ **Calibration – Variety of errors based on lack of understanding and following the appropriate calibration standard**

➢ **Industrial Safety** – Personal Protective Equipment (PPE), facility/equipment maintenance

➢ **Training – Not to contractual requirements, Records availability/maintenance**

➢ **GIDEP / NASA Advisories** – Unable to identify GIDEP Alerts and NASA Advisories are not received or communicated internally

➢ **Engineering Design – ECO & Waiver Processing Problems, Design Change flow-down lacking, Documentation Errors**

➢ **Records** – Inappropriate corrections, forms not being completed, required maintenance/controls not known or understood

Root Cause

The greatest majority of these problems stem from:

➢ The organization not understanding what industry or customer specifications requirements apply to their "Normal System" in order to assure compliance.

➢ Lack of an easily understood and executed methodology for communicating customer requirements to the various disciplines within the organization and to the supplier base.

➢ Failure to work with your customer to adequately resolve any "fuzzy" requirements.

The following are suggestions (not direction) that our team has found to be successful in NASA/NCAS assessed supplier organizations.

You may want to look at the results of your customer and/or internal audits and determine if you have similar issues. Perhaps these suggestions may be of benefit to your organization/infrastructure/culture.

Document Control

Common Issue: Not following procedures, obsolete references, procedure does not reflect what is actually being done

Compliant organizations often:

1. Have developed a Matrix of procedural and specification references so when either changes you can easily identify if there is an impact that requires attention.

	GSFC 01	GSFC 02	GSFC 03	GSFC 04	GSFC 05	GSFC 06	NPR 8000.4	ISO 17025	S20.20
GSFC 01			X			X			
GSFC 02									X
GSFC 03	X						X		
GSFC 04								X	X
GSFC 05									X
GSFC 06	X							X	
NPR 800.4			X						
ISO 17025				X		X			
S20.20		X		X	X				

2. Create a "Great Catch Culture" where people are encouraged to and recognized when they identify procedures, work instructions or other documents that don't accurately reflect what is required to be done.

Contract Review

Common Issue: Flow down of contractual requirements within the organization not adequately managed

3. Establish your position

1. Define your process

2. Submit Delta's for review/ approval
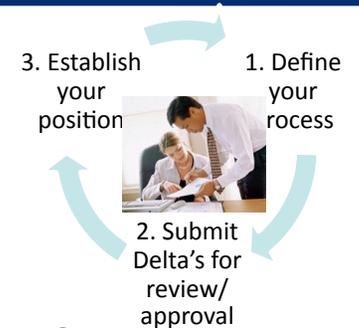
Compliant organizations often:

1. Define a process for the identification of industry and customer specifications (including revisions) which their Quality Management System is required to compliant.

2. Utilize a master template to ensure that all contract requirements are reviewed, understood, and communicated within the organization.
   - This same template is updated as contract changes are made throughout the life of the program.
   - Manage compliance implementation like a project, complete with due dates and actions that are required to assure compliance with new requirements.
   - Audit for customer contractual compliance.

3. Review contract and customer specifications and compare them against what the organization has in place. Document the company's compliance profile in a matrix and ensure this is communicated.
   - Identify gaps and establish a company position that can be used for future contract reviews, i.e. either take a formal exception or bring their system into compliance.
   - Audit internal procedures to ensure on-going contractual compliance.

Procurement

Common Issue: 46% Purchasing Process, 37% Purchasing Information, 17% Receiving Inspection

Compliant organizations often:

1. Are on direct distribution for contract review so they know the requirements of each contract.

2. Have a documented process in place for review, approval and how changes to purchase orders are amended and changes communicated.

3. Maintain an accurate approved supplier list which includes scope of approval. There is a documented process for how a supplier is approved/ disapproved.

4. Have a supplier oversight process (audit) and rating system with thresholds that initiate action.

5. Ensure that there is a process in place for receiving inspection that minimizes risk to the organization and to the customer for accepting non-compliant product.
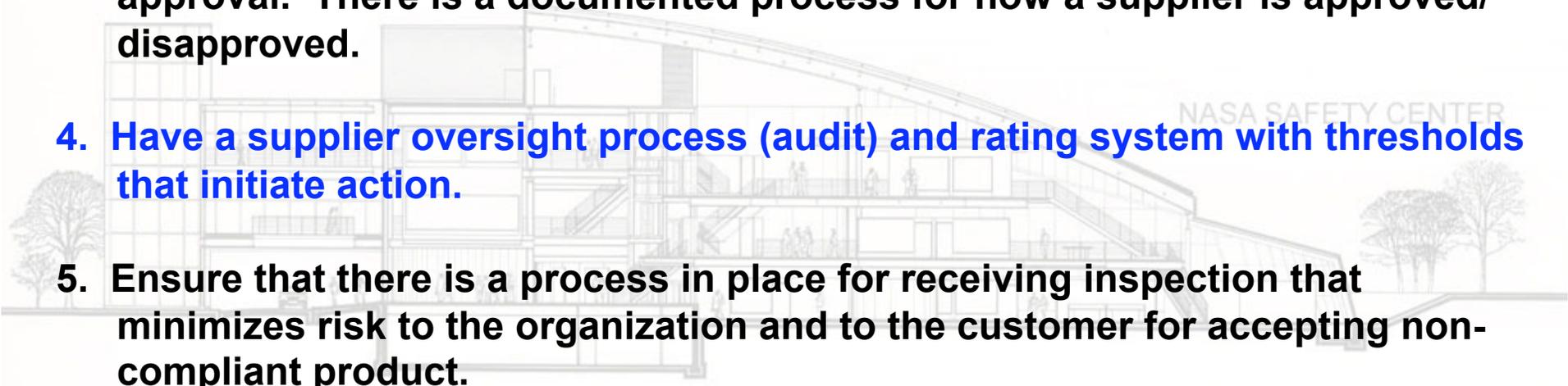
Calibration

Common Issue: Variety of errors based on lack of understanding and following the appropriate calibration standard

Compliant organizations often:

1. Identify the industry and customer specifications to which their organizations calibration requirements are required to comply. If the requirement is ISO/ IEC 17025 validate compliance to each of the applicable 8 categories.

2. Have clearly flowed those requirements to their calibration service providers.

3. Have taken exception during the contract review process when appropriate and have a waiver in place that clearly identifies what requirements are required.

4. Understand that personally owned measuring devices are included in the requirement for calibration controls.
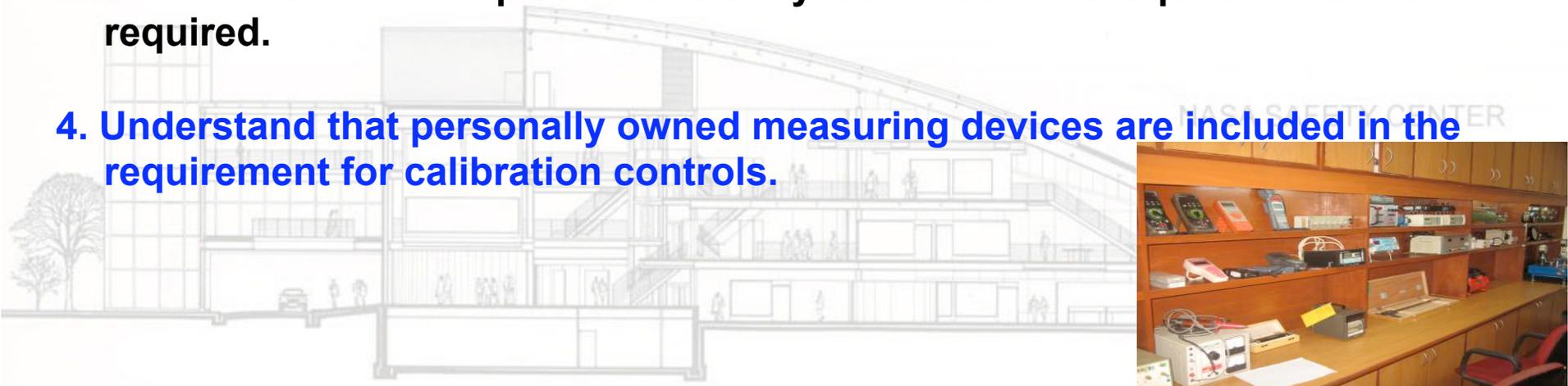
Industrial Safety

Common Issue: Personal Protective Equipment (PPE), facility/ equipment maintenance requirements are not adhered to.

Compliant organizations often:

1. Review and develop applicable PPE requirements and have these requirements documented in work instructions based on the organizations use.
   - MSDS sheets are developed based on worst case uses of the substance and may not be applicable for your specific requirement.

NFPA 704 Label

HEALTH
4 - Deadly
3 - Extreme Danger
2 - Hazardous
1 - Slightly Hazardous
0 - Normal Material

FLAMMABILITY
4 - Below 73°F
3 - Below 100°F
2 - Above 100°F
1 - Above 200°F
0 - Will Not Burn

SPECIFIC HAZARD
Oxidizer   OX
ACID   ACID
Alkali   ALK
Corrosive   COR
Use NO WATER   W
Radioactive

REACTIVITY
4 - May Detonate
3 - Shock and Heat
    May Detonate
2 - Violent Chemical Change
1 - Unstable If Heated
0 - Stable

2. **Have provided training to their internal auditors on industrial safety and have included that as part of every internal audit.**
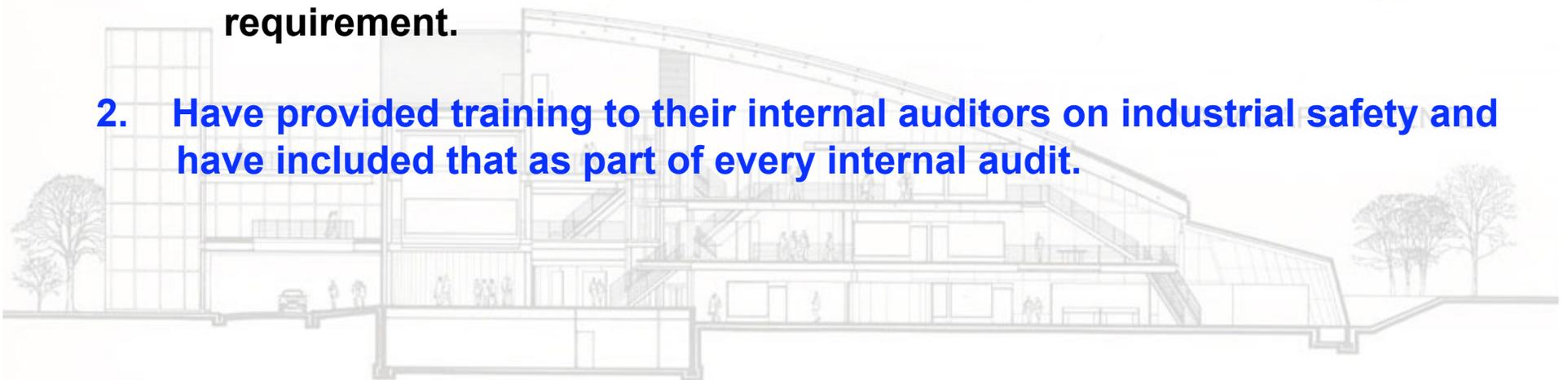
Training

Common Issue: Not to contractual requirements, Records availability/maintenance

Compliant organizations often:

1. Review the contract specifically for requirements related to training for ESD controls and NASA-STD-8379 series requirements.

2. Develop a matrix that validates their training process satisfies all requirements.

3. Submit their training program to the customer along with the matrix showing compliance to the requirements and ask that it be approved as an acceptable equivalent.
   - Determine the best alternate approach if the training program is not approved and ensure implementation.

NASA SAFETY CENTER

Workmanship

NASA WORKMANSHIP TECHNICAL COMMITTEE

GIDEP / NASA Advisories

Common Issue: Unable to identify GIDEP Alerts and NASA Advisories are not received or communicated internally

Compliant organizations often:

1. Are on distribution of NASA Advisories. If you are not on distribution contract your customer and/or NASA and ask to be included.

2. Have a single point of contact for receipt and review of GIDEP alerts and receipt of NASA Advisories. This person compares the subject part numbers against the inventory, internal assemblies, and supplier as built BOM's.

3. Maintain a master list for distribution of the alerts or a board that reviews the alerts for impact.

4. Send their GIDEP administrator to training on the GIDEP search process.

5. Include the GIDEP process in the internal audit schedule.
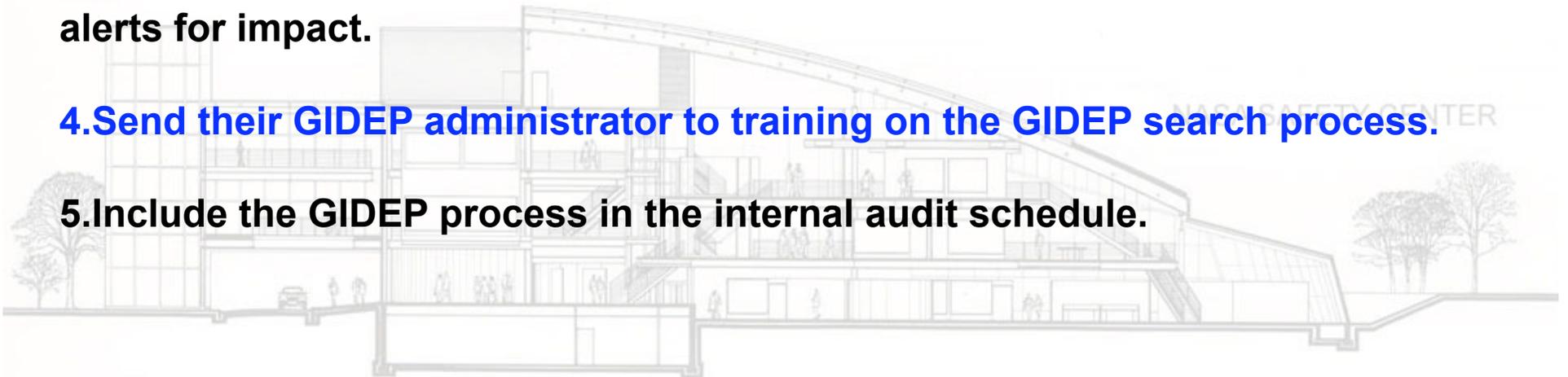
Engineering Design

Common Issue: ECO & Waiver Processing Problems, Design Change flow-down lacking, Documentation Errors
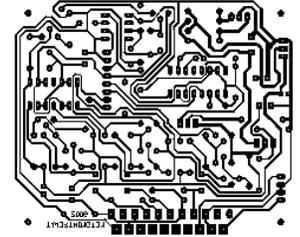
Compliant organizations often:

1. Have a clearly defined process for contractual understanding of design and development records requirements.

2. Have a template that is used to communicate contractual requirements to all disciplines. This same template is used to communicate Design Changes.

3. Have a clearly defined waiver processes that ensures submittal for customer approval when required.

4. Incorporate risk management as part of their change order process.

5. Establish an Engineering internal audit program that includes review of documentation to assure forms are applicable, and that entries are done by authorized personnel, and all entries are complete.

Records Control

Common Issue: Inappropriate corrections, forms not being completed, required maintenance/controls not known or understood

Compliant organizations often:

1. Perform thorough contract reviews to ensure understanding of contractual requirements relevant to records and identify specifically which records this encompasses.

2. Ensure there is a contractual understanding as to when the record retention requirement starts, e.g., when shipped, life of mission, etc.

3. Ensure that employees understand the approved method of making changes, e.g., who is authorized, single line through, initial, and date the change.

4. Require that records applicable to all areas of internal and process audits be reviewed during the internal audit process.
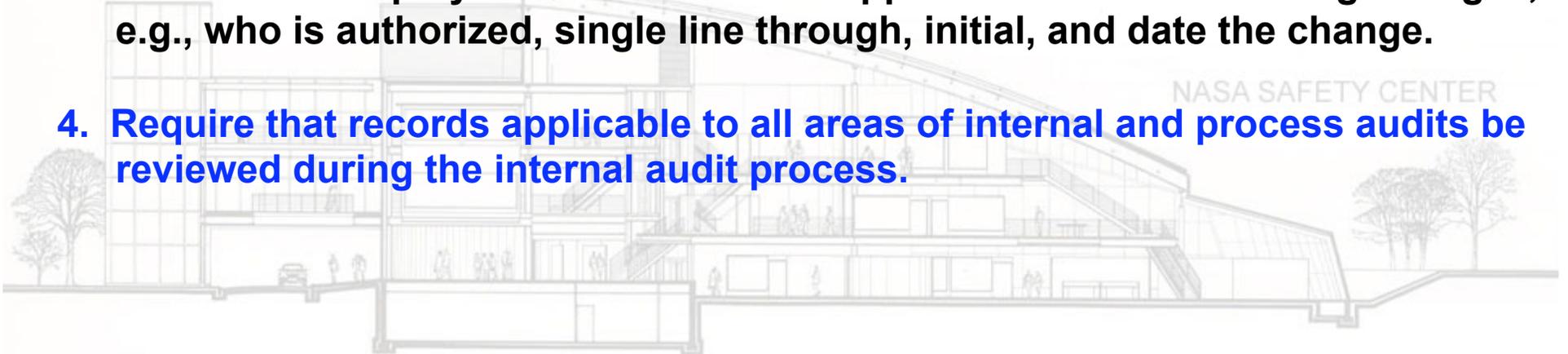
Summary

- **NASA is committed to:**
  - **the supplier assessment process,**
  - **ensuring compliance of the supplier to NASA contractual requirements, and**
  - **further improve product quality.**

- **It is ultimately the responsibility of Management at the Supplier's organization to assure compliance.**

NASA SAFETY CENTER

THANK YOU

TOGETHER WE CAN AND WILL CONTINUE TO SUPPORT SUCCESSFUL NASA MISSIONS