VCAT February 2020

Occupational Safety and Health at NIST

- **FY20 Key Metrics to Date**
  - **Incident and Near Miss Data**
  - **Workplace Inspection**
- **Special Projects**
  - **Slips, Trips and Falls**
  - **Targeted Communications**
  - **Crane Safety**
  - **Contractor Safety**
- **Status of Plans for FY20**

National Institute of Standards and Technology
U.S. Department of Commerce

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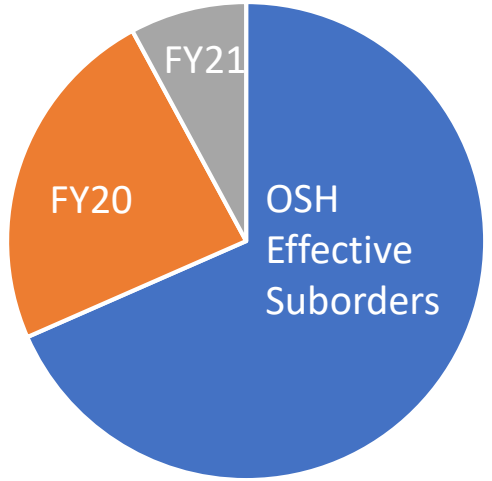
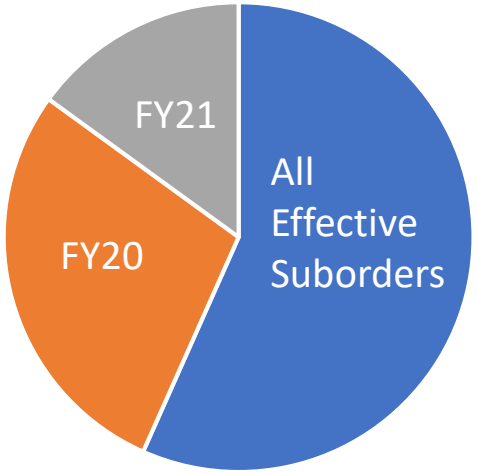
Chief Safety Officer

NIST Safety Management System: Status of Planned Suborders

Directive Category	Effective Suborders	FY20 Planned	Remaining
Occupational Safety and Health	26	8	4
Environmental	5	5	4
Fire and Life Safety	2	2	0
Radiation Safety	1	1	2

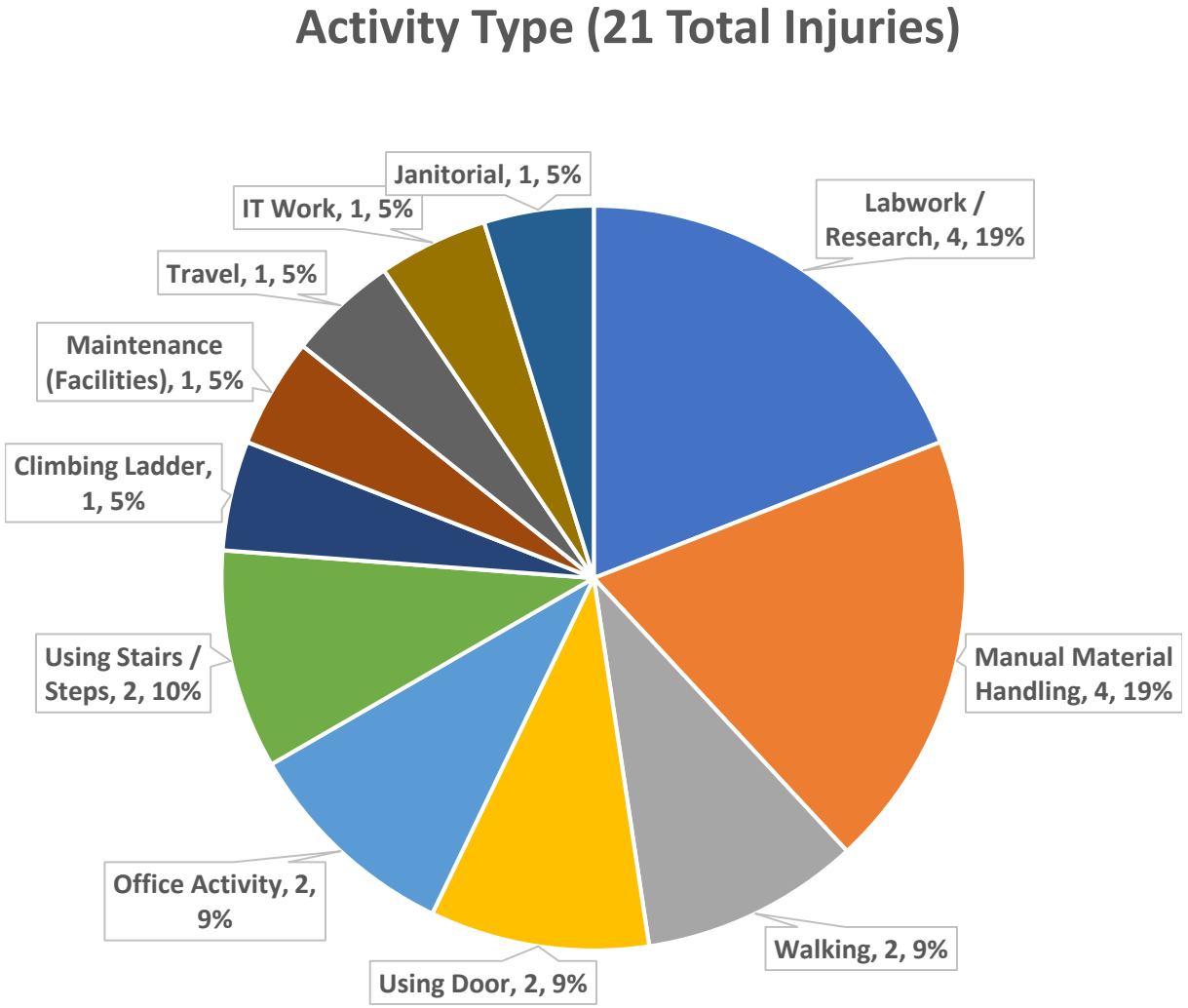




FY20 NIST Incident and Near Miss Data FY20 to Feb. 1, 2020

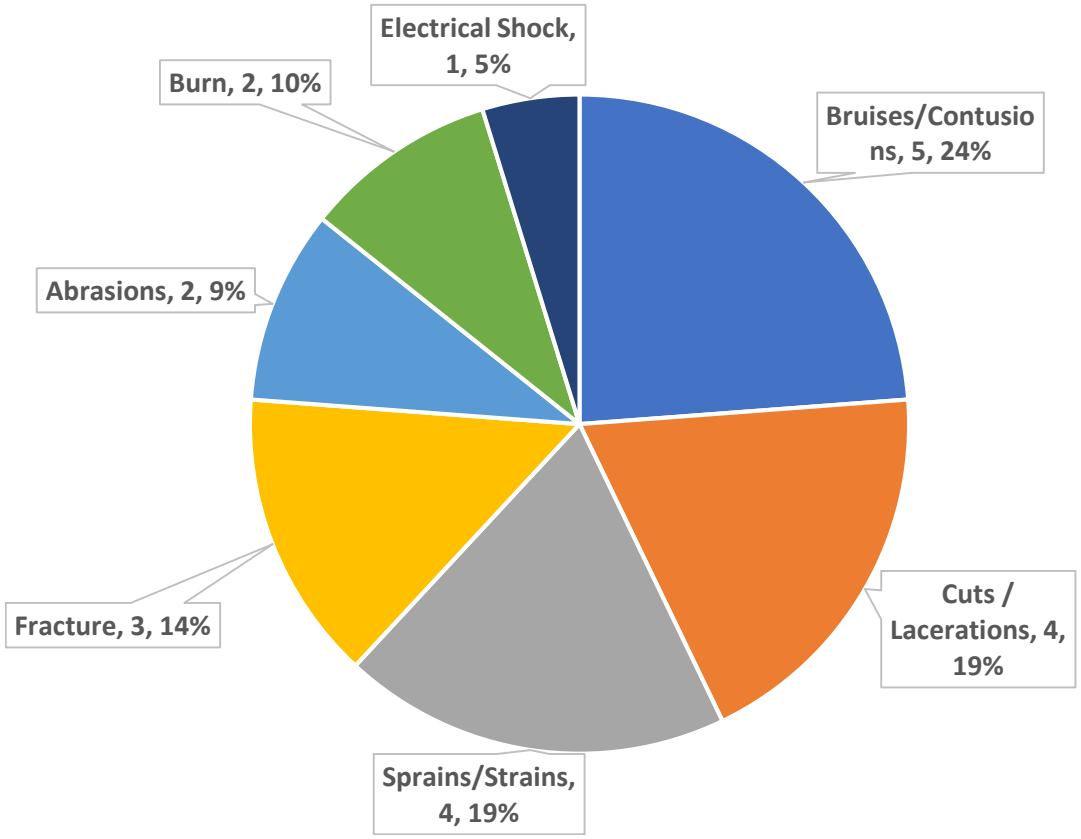
Type	Number of Cases	# of Affected Staff	OSHA Recordable Cases*
Injury	**21**	**21**	**5**
Illness	1	1	1
Exposure	1	1	NA
Near Miss	19	NA	NA
Property Damage	5	NA	NA
Spill/Release	3	NA	NA
Contamination by Radioactivity	1	NA	NA
Other	8	NA	NA
	59	23	6

*Two of the OSHA Recordable Cases are DART (days away or restricted) cases

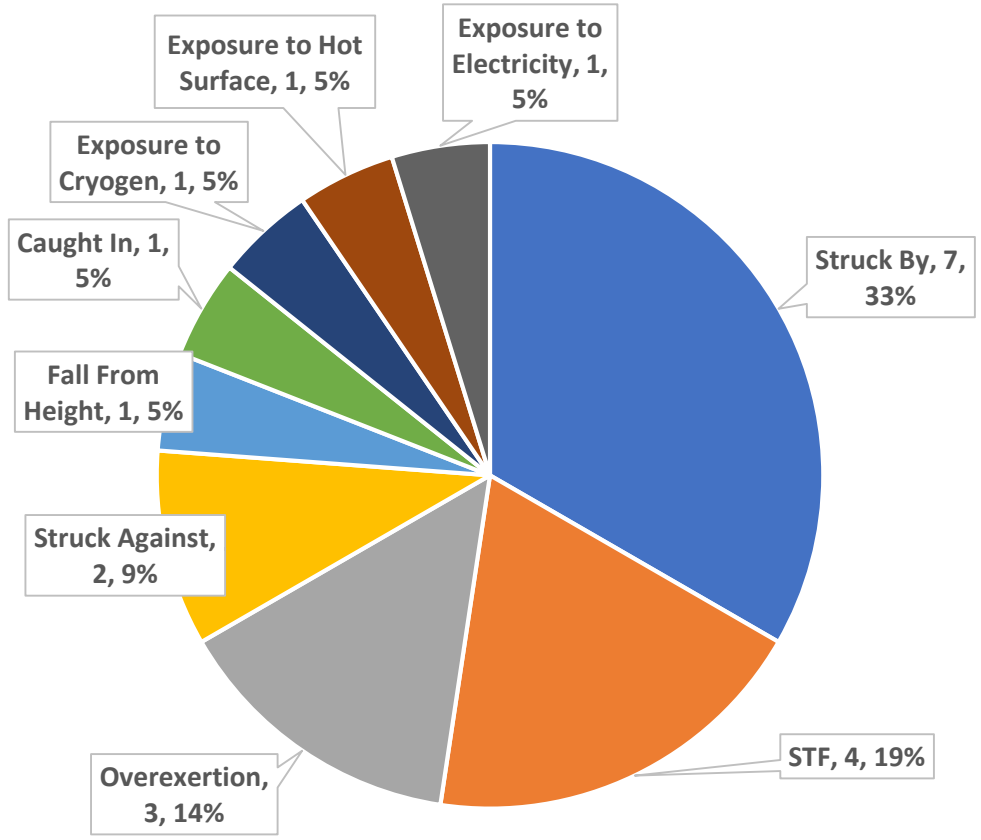


FY20 NIST Injury Data: Activity Type and Event Type

FY20 YTD- Injury Numbers by Injury Type



Event Type (21 Injuries)



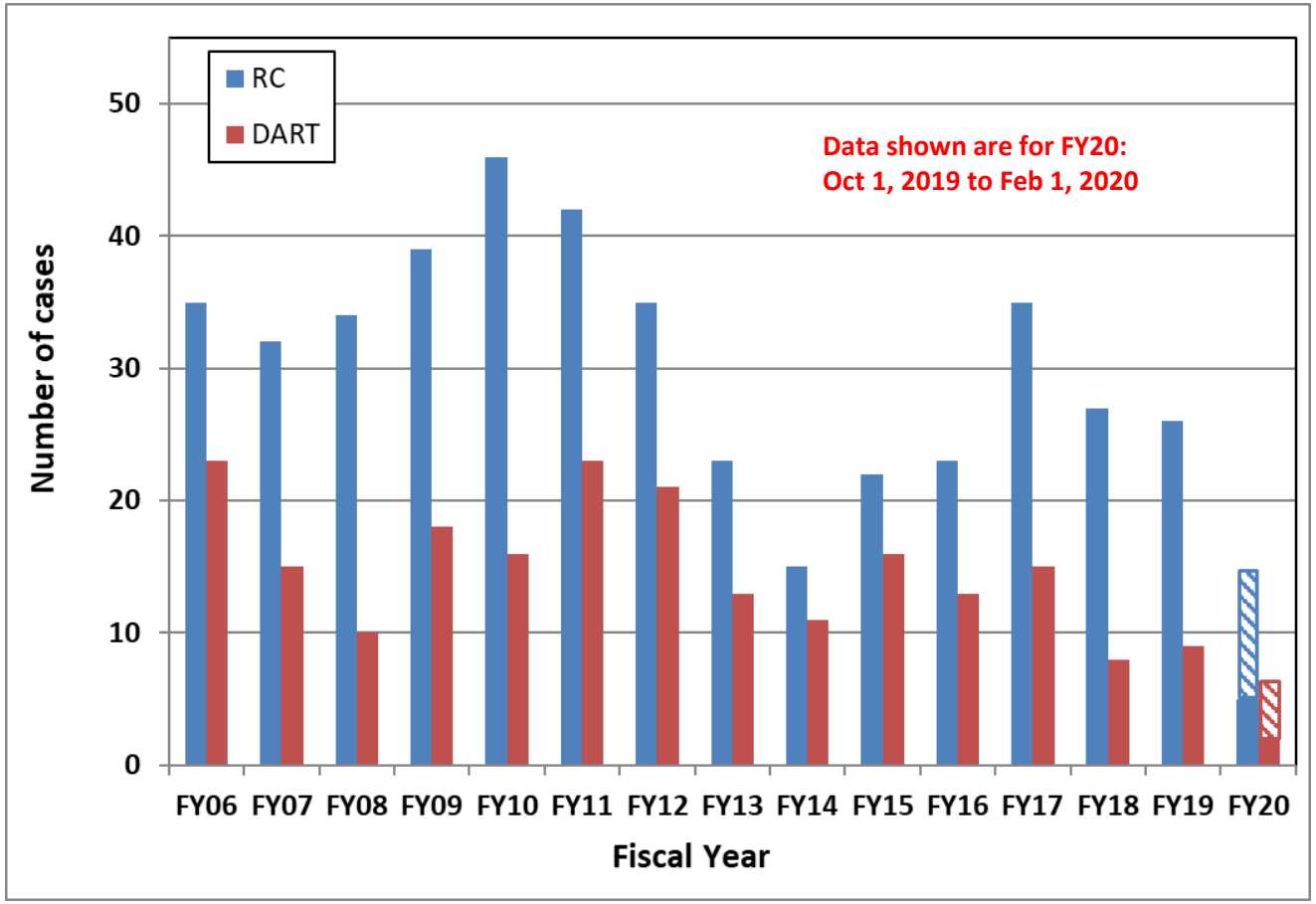
OSHA Recordable Cases; Days Away from work, on Restricted duty or Transferred

Recordable case (RC)

- To a first approximation, a work-related injury or illness that results in any of the following: death, days away from work, restricted duty, transfer to another job, medical treatment beyond first aid, loss of consciousness.

DART case

- A work-related injury or illness that results in any of the following: Days Away from work, Restricted duty, Transfer to another job.



- Data includes Federal Employees and Associates
- Standard Threshold Shift (STS) or hearing loss cases excluded in data for: FY15 (5), FY16 (8), FY17 (3), FY18 (8), FY19 (1), and FY20 (1)

Slips, Trips and Falls Campaign

- Video– “Walking in a winter wonderland”
- “Walk like a penguin” handout and website
- OFPM treating slippery areas
- Informing staff to use treated areas and not take shortcuts
- Telework policy permitted increased use of telework during weather-related events
- Spill pads available in hallways, umbrella bags at entries
- Marking areas of uneven surfaces, repairing surfaces
- “Head in the game” minimize distractions while walking

Causal factors have included: out-door slippery conditions; uneven surfaces indoors and outdoors; taking shortcuts; lack of situational awareness or not “paying attention.” This campaign addressed most causes.

Incident Data – Information Campaigns from OSHE, Amplified by OUs

[A Potential Hazard Under Your Desk: An Aging UPS]
As the battery inside an uninterruptible power supply (UPS) ages, it can pose a potential hazard. Learn more.

[Important Safety Guidelines Regarding UPS Device Lifespan and Replacement]
To reduce the risk of UPS devices overheating due to the age of the device, OISM will be following the manufacturer's guidelines...

[Lessons Learned: Don't Judge a Package by Its CoverLessons Learned: Don't Judge a Package by Its Cover]

MML stakeholders worked with OSHE to updated our training: [Receiving Hazardous Chemical Packages at a NIST Workplace].
MML developed a training presentation for their staff and held sessions on Safety Day

Contractor Safety– *Success Plan in the Making*

4 Buried Utility Incidents Involving Contractors in Boulder

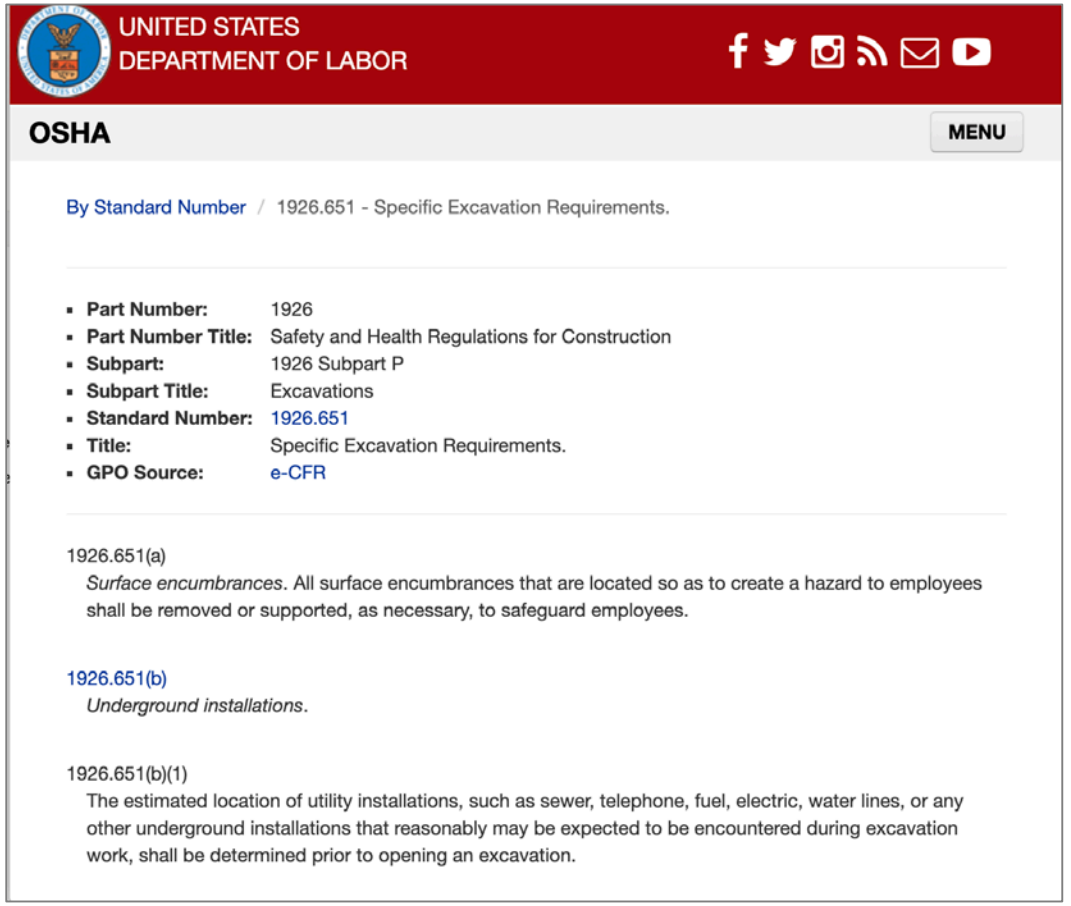
OSHE and OFPM collaborated on Incident Investigation

OFPM Actions:

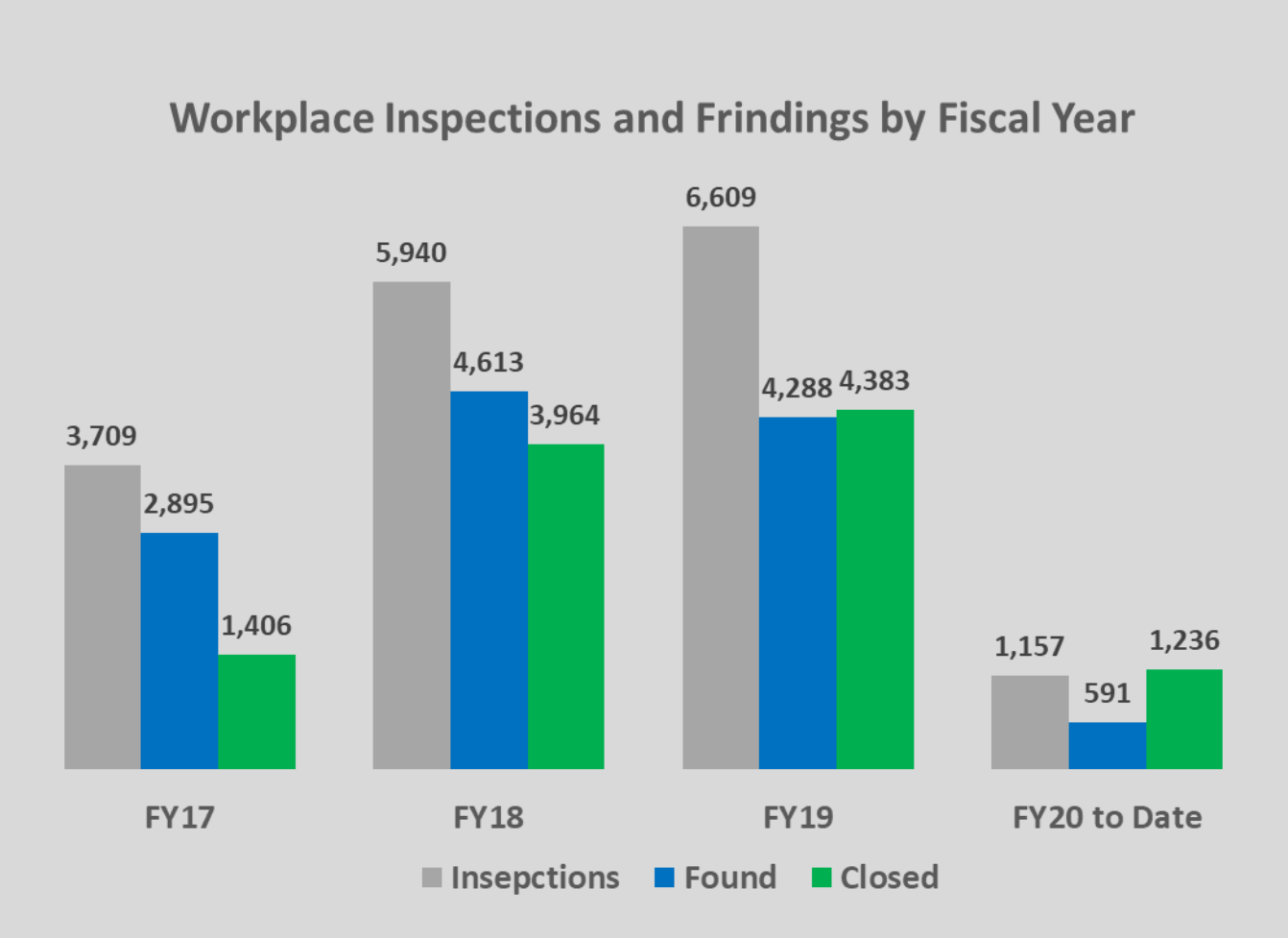
- Provided Colorado requirements for utility locates to CORs and contractors
- Contract to provide accurate utility map of Boulder site
- New safety hire who may assist with construction site oversight when needed

OSHE Actions:

- New Excavation Safety Program and Utility Marking Procedure provided for review by stakeholders in OFPM
- Non-R&D Contractor Safety Program planned for FY20



Workplace Inspection Program



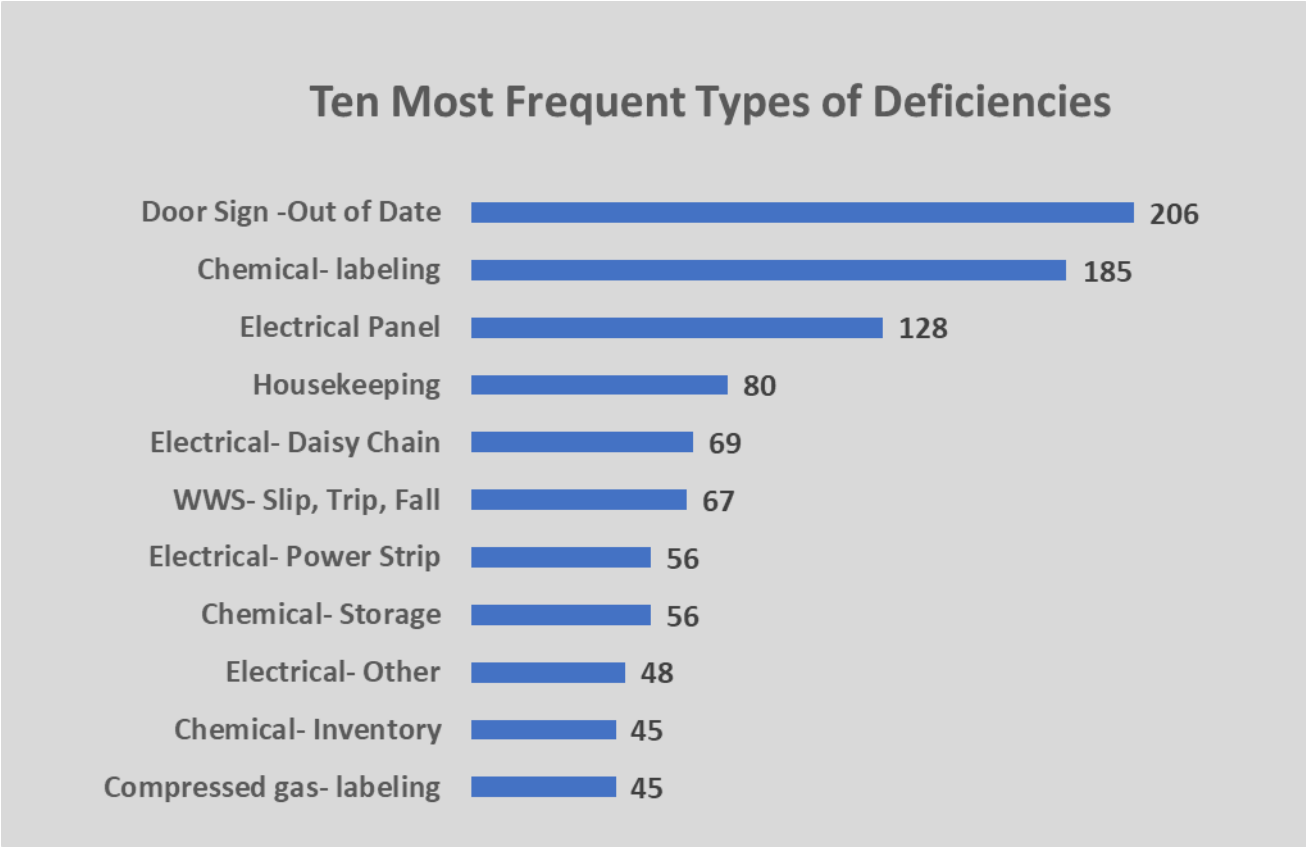
Workplace inspections are performed by staff with assistance from OSHE safety professionals

Annual inspections of offices and office-like spaces

Biannual inspections of spaces with higher hazards including labs and shops

Data are recorded using either an iPad app and checklist or using computer database to record deficiencies

Ten Most Frequent Types of Deficiencies during the last half of FY19



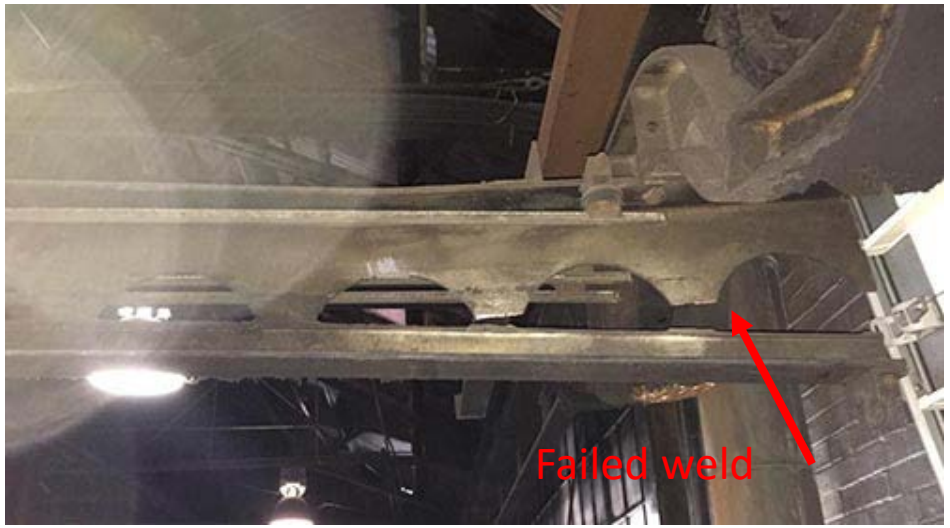
Data are analyzed to provide information to NIST leadership, and used by OSHE to provide targeted support

Examples include:

- Assistance with office inspections
- Guidance on identifying and remediating common electrical safety deficiencies
- Signs to post blocked electrical panels
- Guide and training on chemical labeling

Crane Safety: Short Term Success Story

- A Division Safety Representative was concerned about the safety of seven “arch beam” cranes in Building 304. He learned that this type of crane was discontinued in the early 1960’s and had not been supported by any manufacturer since the early 1990’s.
- The Division Safety Representative called an OSHE inspection team member, who recommended hiring an expert to perform non-destructive testing of the welds.
- Results indicated that the welds were not dependable, and there was a high potential for the beam to fail while operating.
- All seven cranes in Building 304 with weld failures were taken out-of-service and will be replaced. Alternative equipment (e.g., gantry cranes, modified forklifts) was procured for use in the interim
- As a result of this finding, NIST evaluated 14 additional arch beam cranes and determined that one of these must be replaced as well



Example of a failed arch beam crane from the web– **this is not a picture of a NIST crane**.

A catastrophic failure of this type of crane could have injured staff.

Crane Safety: Long Term Success Plan

- Crane Safety Program
- Out of Service Program
- Crane inspection process improvements

OSHE issued a draft Crane Safety Program, a draft Out-of-Service Program and worked with OFPM to improve the routine inspections of cranes performed by contractors. OSHE continues to work with customers to implement crane safety requirements and facilitate inspections.

Progress on FY20 Plans

Safety Culture

- Safety Climate Assessment – Planned for summer 2020
- Safety Day– Leadership Involvement and Commitment – Gaithersburg Safety Day held Oct 24; Boulder planned for May 7
- Management Safety Observation Visits–Video of managers discussing the importance of safety conversations; ppt training updated

Improve Access to Safety Information

- New website with information in easy to access HTML format– Content 50% drafted; planned launch October 2020

Safety Management System

- Occupational Safety Programs: 7 of 9 planned programs on schedule; added others to respond to incidents
- SMS Programs : Management Review Procedure under review; Documents and Records
- Data analysis: Shift to risk-based metrics for incidents, workplace inspection and other data

Assessments and Benchmarking (FY19 internal assessments; FY20 external focus)

- Other government agency benchmarking with CDC and DOE
- ISO 45001 informal assessment, leveraging TAG member relationships

Partnership with Office of Facilities and Property Management to address ageing infrastructure and facilities safety - Ongoing