

Safety Update: VCAT June 2024

Dr. Elizabeth Mackey, Chief Safety Officer and Director, Office of Safety, Health and Environment

June 11, 2024

Agenda:

- Fiscal Year 2024 Goals: Status and Key Accomplishments
- Status of Action Plans
- VCAT Follow-up: ESC Metrics Established
- Safety Dashboard
- ISO 45001 Pre-Certification Assessment
- FY 2024 Incident Data, Focus on Incident Severity

1 Complete and Fully Functional SMS

- Issue and Implement Audit Program; conduct first external ISO 45001 pre-certification assessment
- Develop and issue remaining SMS Directives
- Operating Units (OUs) finish re-reviews of existing hazard reviews

Actions Taken

- ✓ External ISO 45001 pre-certification audit
- Consultants to develop remaining programs
- Electrical Safety Program developed by OSHE, in stakeholder review
- Lab staff 80% complete re-reviews

2 Improve NIST Safety Culture

- Communicate status of implementation of the NIST Safety Culture Action Plan developed by multi-level, multi-OU teams (nine actions)

Actions Taken

- ✓ Status of implementation of the NIST Safety Culture Action Plan posted and maintained on Safety website
- ✓ ESC monitors progress of actions

3

Strengthen OSHE Roles & Responsibilities

- Strengthen role and responsibility of the CSO
- Define stronger roles for OSHE staff to ensure consistent hazard mitigation across NIST
- Implement a phased approach to increasing safety staffing, services provided, OU embeds

Actions Taken

- ✓ CSO named Special Assistant for Safety to NIST Director, voting member of ERM Council
- ✓ 5 safety inspectors hired; 3 embeds hired
- Fall protection specialist position in progress; interim action, fall hazard assessment underway
- Workplace Inspection and Hazard Review Program revisions underway, specify OSHE roles

4

Performance Metrics

- Establish goals to improve leading metrics, e.g., near miss reporting, timeliness of corrective actions, training completion
- Complete build of safety dashboard

Actions Taken

- ✓ ESC established goals for improving KPI metrics
- ✓ Completed dashboard for Incidents, Corrective Actions and Training data
- Future dashboard updates to include inspection data

ISO Pre-Certification Assessment Gaps (Draft, May 2024)

75%

Positive (conforms/exceeds)	OIs (generally conforms)	Gaps (non-conformance)
15	24	13

Gaps (Non-Compliance) 25%

1. Add union representatives to OSH policy, SAC and local councils where applicable (two gaps)
2. Address psychosocial hazards and mitigation strategies
3. Develop and document processes used to assess NIST-level opportunities and risks
4. Document process used to determine legal and other requirements
5. Establish and document competencies for all SMS roles
6. Include training on ISO 45001 in NIST General Safety and NIST Safety Leadership training
7. Clean up documents and records to comply with internal OSHE PR (underway)
8. Develop and implement a Management of Change Program (ESC Draft under Contractor review)
9. Develop and implement an Audits and Assessments program (Contractor Task 4)
10. Develop and implement a Corrective and Preventive Actions program to address non-compliances
11. Document a single comprehensive process to evaluate SMS performance, include audit inputs
12. Include data from 3, 9-11, in management reviews

Safety 2.0 Action Plan, 65% Complete



ACTUAL START
DATE

FRI 10/3/22

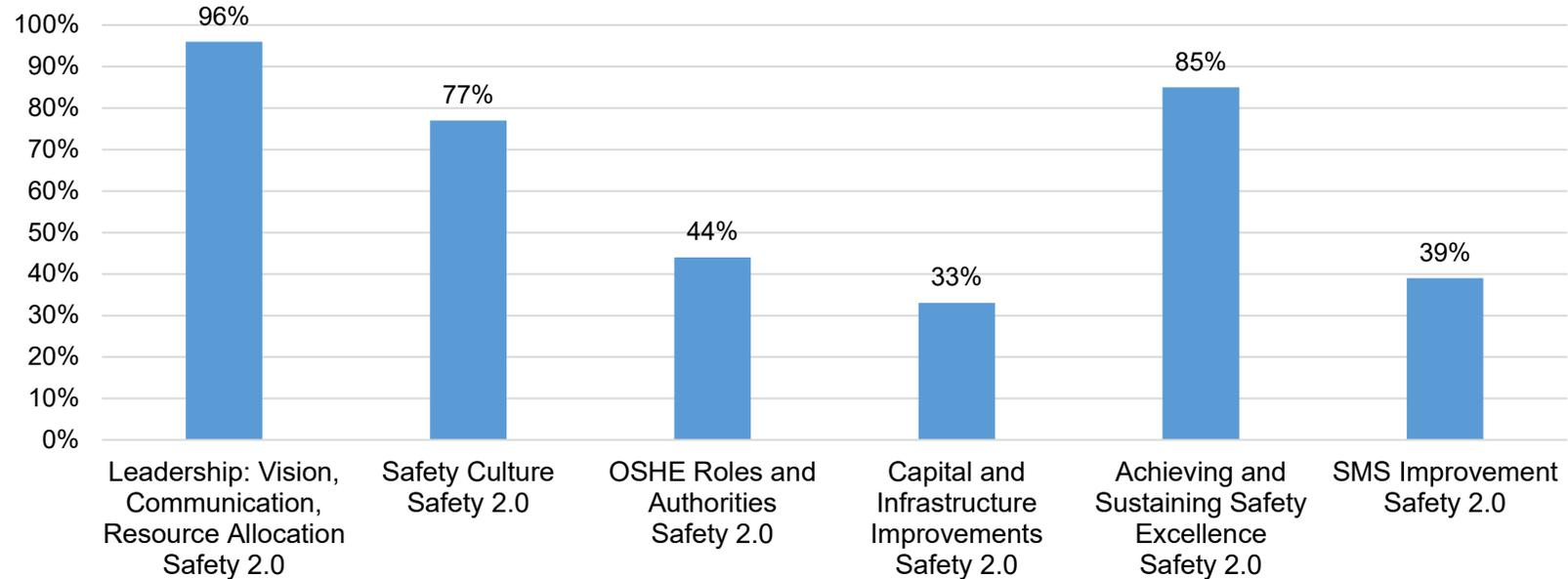
PLANNED END
DATE

TUE 3/31/26

% COMPLETE BY PROJECT WITH
TIMELINE

47%

65% Completion of 35 items



	Category Name	% Complete	Start	Finish	Obligated Cost	Cost
1	Leadership: Vision, Communication, Resource Allocation	96%	Fri 10/7/22	Tue 9/30/25	\$397,653.38	\$397,653.38
2	Safety Culture	77%	Mon 12/12/22	Fri 8/9/24	\$0.00	\$0.00
3	OSHE Roles and Authorities	44%	Thu 2/23/23	Wed 1/8/25	\$799,190.27	\$2,608,128.14
4	Capital Improvements	33%	Mon 10/3/22	Tue 3/31/26	\$1,351,000.00	\$26,339,630.00
5	Achieving and Sustaining Safety Excellence	85%	Mon 4/3/23	Wed 9/25/24	\$0.00	\$36,789.44
6	SMS Improvements	39%	Fri 5/12/23	Fri 12/19/25	\$144,000.00	\$1,405,333.25

NIST Fatality Investigation Corrective Action Plan, 65% Complete



ACTUAL START
DATE

FRI 10/3/22

PLANNED END
DATE

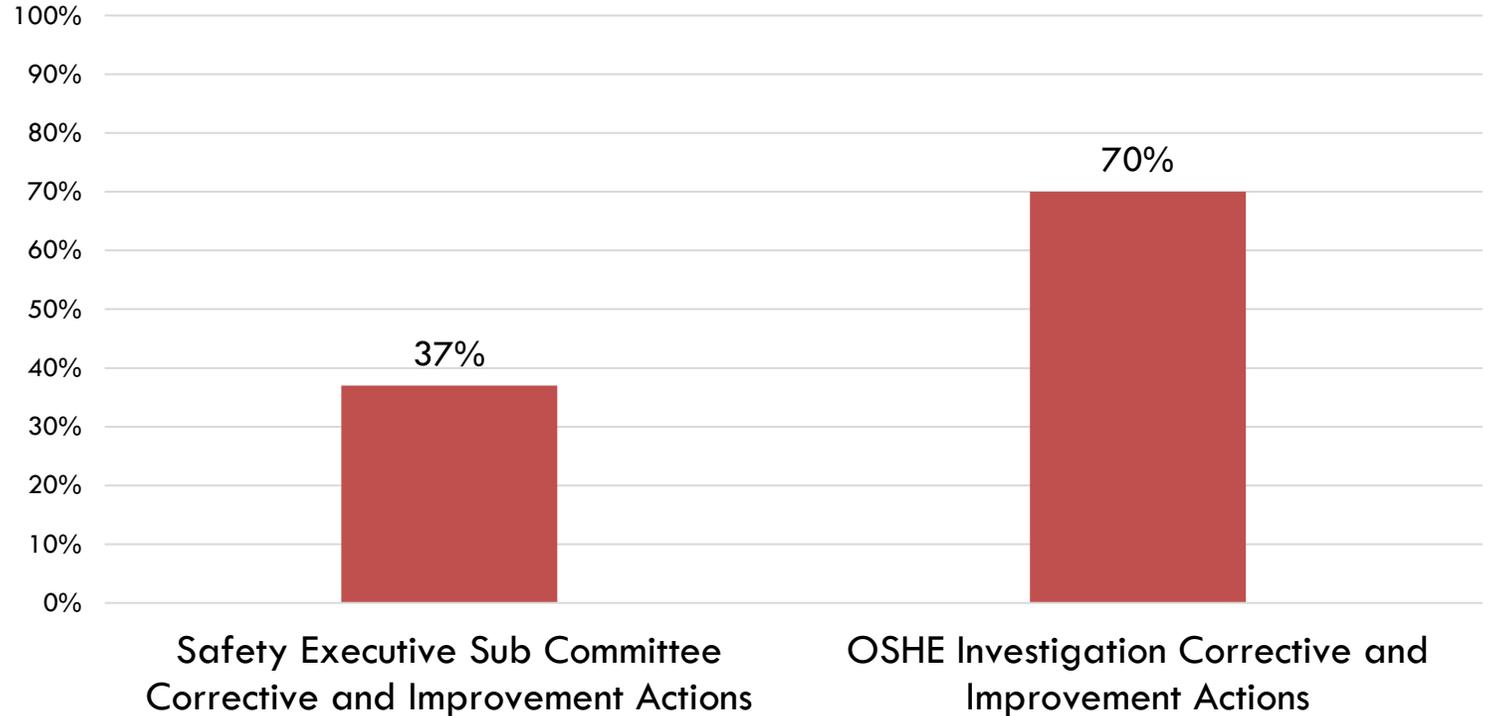
THU 9/11/25

% COMPLETE BY PROJECT TIMELINE

47%

65% Completion of 41 items

- 45% completion of 15 ES items
- 76% completion of 26 CA items



Category Name	% Complete	Start	Finish
Safety Executive Sub Committee Corrective and Improvement Actions	37%	Tue 1/10/23	Thu 9/11/25
OSHE Investigation Corrective and Improvement Actions	70%	Mon 4/3/23	Tue 3/11/25

Safety Dashboard is LIVE



- Focused on actions needed by staff and managers
- Current dashboard covers incident investigations, corrective actions and training data
- Workplace inspection data will be added with revision of that application (underway)

Example: Training Dashboard

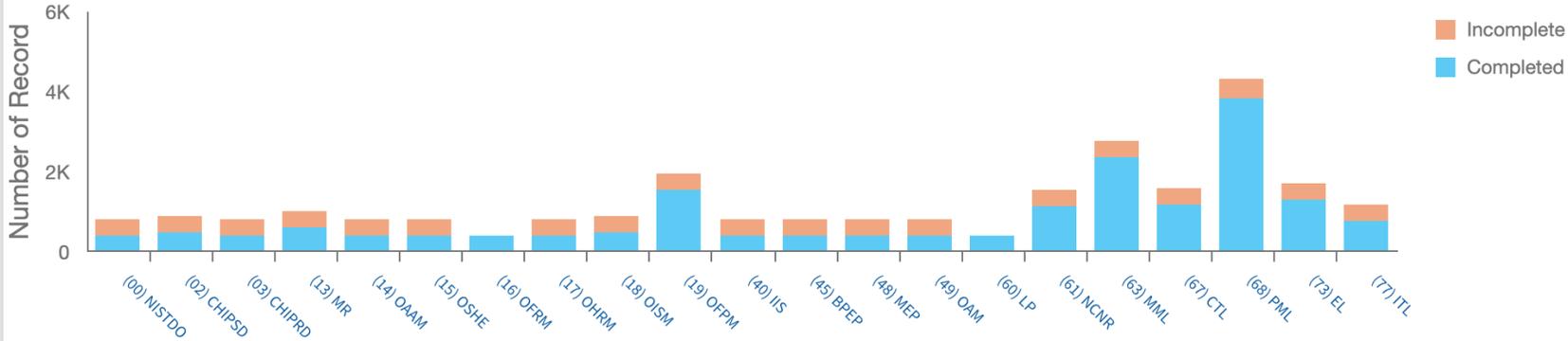


Total All Assigned Safety Courses

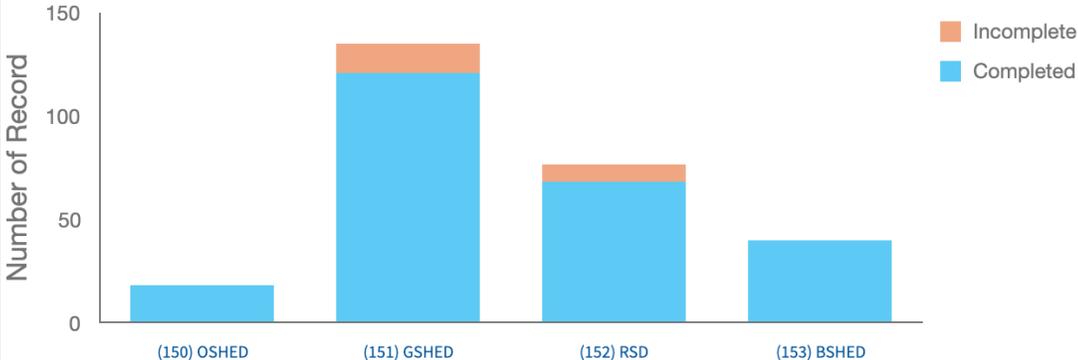
1868
Incomplete

15310
Completed

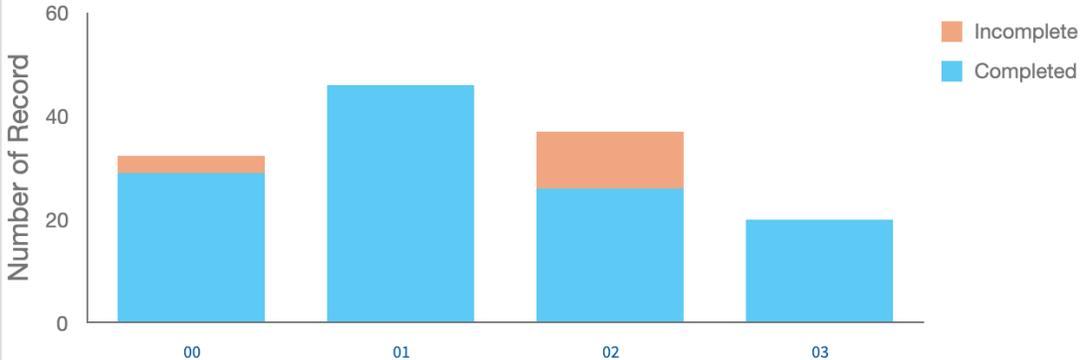
All Assigned Safety Courses By Organization



All Assigned Safety Courses in (15) OSHE by Division



All Assigned Safety Courses in Division (151) GSHED by Group



List of All Assigned Safety Courses in Division (151) GSHED

Incomplete Completed

Executive Safety Committee Performance Goals for 2024



Performance Indicators	Measure	End of FY23	FY24 Goal
General Safety Training + Safety Rules of Behavior	% complete	90% (94% today)	100%
Assigned Specific NIST Safety Program Training	% complete	Not tracked FY23 (89% today)	100%
Hazard Reviews initiated, renewed or updated	Not tracked	Future leading indicator to be tracked with new HR app	
Near Miss Reporting	% of total reports	30% (49/166)	60%
Incident Severity: PSIF cases per total cases	#/total (%)	22/166 (14%)	Observe, no target
Time to report incident in IRIS, target 2 days	% within required days	12 d	100% within 2 d
Time to complete investigation, target 20 days	% within required days	50 d	95% within 20 days
Incident corrective actions, overdue	# overdue/total (%)	31/129 (24%)	Target 0; ≤5% min
Workplace inspections performed	% of total rooms	45% (3736/8234)	100%
Open deficiencies from previous FY's (Note: open deficiencies are ≤3% of total)	Total # open # serious	1733 (706 today) 188 (96 today)	(Follow up needed) Close 100% of Serious
Imminent danger deficiencies	# open	4 open	0 open
Deficiencies per inspection	Ratio	0.70 (3y-increase)	Observe, no target
Observations conducted by managers	Per OU policy	Not tracked at NIST level	OUs to track/report
Safety Communication Click rate	%	64%, steady	Maintain or improve
Safety Website traffic: Uses, % YoY increase	Number	14,410; up 50%	Maintain or improve

Reported Incidents and other events (Data from June 2024)



Type	Cases	Affected Staff	OSHA Recordable Cases
Injury	24	24	7
Illness	20	23	20
Near Miss	33	0	
Property Damage	10		
Contamination by Radioactivity	0	0	0
Spill / Release	7		
Exposure	3	1	0
Other	7	0	0
Total Cases FYTD	103		

On track for pre-COVID number of events per year (range:150-175)

Near miss reporting, 33/103 (32%, low)

Unusual number of hearing loss cases

Key Actions Underway:

- Weekly Summary to NIST Leadership with focus on PSIF, late investigations
- Campaign to increase near miss reporting
- OSHE Hearing Program manager investigating increase in hearing cases

Of 24 Injury Cases, 7 were Recordable, 6 of those were DART cases
 Of 20 Recordable Illnesses, 8 were DART COVID-19 cases, 12 STS hearing loss cases

Events with the Potential for Serious Injury or Fatality



Case ID	Title	Type	Key Corrective Actions
24-IG-0067	Chunks of Concrete Fall into Underground Vault While Staff Member is Exiting Manhole	Near Miss	Under investigation; engineering assessment underway
24-IG-0001	Fluorine Gas Release While Disconnecting Cylinder	Spill / Release	System decommissioned; process change TBD for any future use (Completed)
23-IG-0084	Unsafe Activity on Roof Due to Lack of Fall Hazard Mitigation	Near Miss	Onboarding improvements planned to ensure adequate training on roof access policy which requires JHA and approval prior to working (Completed for individual)
23-IB-0022	Underground Power Line Struck and Damaged by Construction Equipment	Property Damage	Re-buried line to proper depth; ensure oversight and inspection of contractor installed utilities (In progress)
23-IC-0002	Over-pressurization of Bulk Nitrogen Storage Tank	Near Miss	Procedure change for fills; pressure limits posted for contractors; institute monthly testing of safety valves, valve stems, and shut offs; training on how to conduct the testing (Completed)
23-IG-0072	Fire in Lab During Testing of In-House Built Oven	Property Damage	Process improvement for in-house instrument testing commissioning; assess failure modes as part of the hazard review process (Completed)
23-IG-0058	Employee Hurt in Fall on Stairs While Carrying Fire Hoses	Injury	Procedure change for carrying items, training on use of handrails and reasonable carry limits (Completed)

Questions, Suggestions?