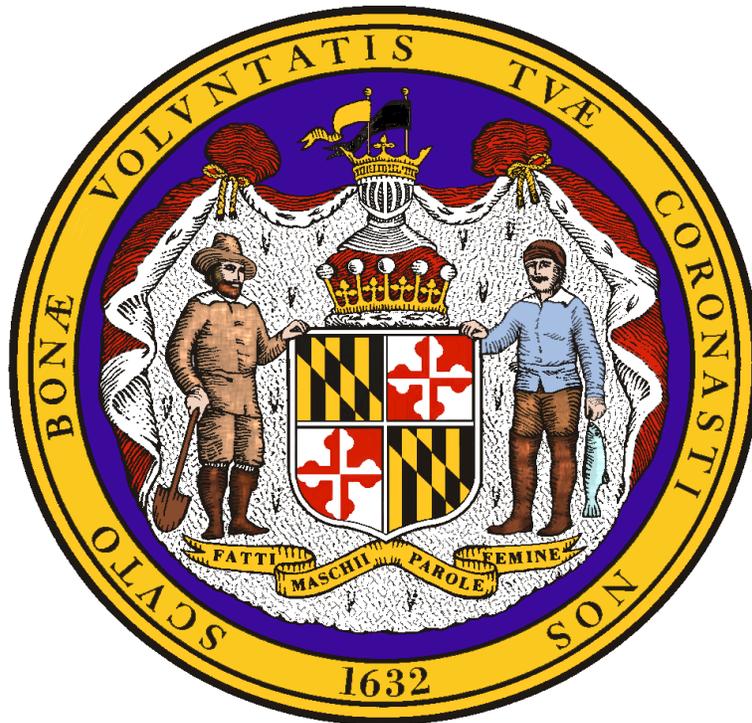


# **FY 2023 State OSHA Annual Report (SOAR): Maryland Occupational Safety and Health**



**Evaluation Period: October 1, 2022- September 30, 2023**

**Prepared by: Maryland Occupational Safety and Health**

**Submitted:**

**Wes Moore, Governor**

**Portia Wu, Secretary**

**Devki Virk, Commissioner**

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## I. Executive Summary

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Federal Fiscal Year 2023 (FFY23) was the first year in the current five-year Strategic Plan. Maryland Occupational Safety and Health (MOSH) has accomplished several goals this year and is on track to complete all of the annual and five-year goals. MOSH Enforcement responded to 18 reported fatalities in FFY23. The enforcement unit consistently outperforms federal counterparts in the average number of violations per inspector, the average number of violations per inspection, the percent of inspections not in compliance, the number of private sector programmed inspections conducted, the percent of programmed inspections with violations found, and the percent of violations retained during settlement at the informal conference. Despite staffing challenges, MOSH was able to maintain an effective enforcement program in FFY23. While MOSH did not meet its self-imposed inspection goal of 1,507 inspections due to unanticipated staff turnover, MOSH still maintained inspection outcomes equivalent with federal counterparts and ensured that identifying and removing hazards from employees in the state of Maryland remained a top priority. MOSH Administration and Operations continued to implement new strategies to improve quality and increase process efficiency.

MOSH Enforcement FFY23 Overview\* :

- 1,096 safety inspections identifying 5,321 hazards, which resulted in 4,327 citations.
- 140 health inspections identifying 866 hazards, which resulted in 662 citations.
- Per compliance inspection, MOSH Compliance Officers and Industrial Hygienists identified an average of 2.54 violations classified as serious, willful, or repeat and 2.27 violations classified as other-than-serious, for a total average of 4.81 violations per inspection.
- Violations were identified in more than 80% of enforcement inspections (81% Safety and 82% Health)

\*Data derived from Appendix D of the FY2023 MOSH Follow-Up Fame Report and OIS reports as of December 1, 2023.

MOSH Consultation Public Sector (23g) exceeded its visit goal and successfully targeted outreach to State parks which resulted in 14 visits in this industry alone.

MOSH continued targeted outreach to employers in the Tree Care Industry through collaboration with a local arborist association, stakeholder meetings, and virtual and in-person training seminars on tree care safety to continue focusing resources on industries with high fatality and injury/illness rates.

Four whistleblower investigations resulted in meritorious findings and a combined total of \$168,000 awarded to complainants.

## II. Summary of Annual Performance Plan Results & III. Progress Toward Strategic Plan Accomplishments

<b>Strategic Goal 1:</b> Improve workplace safety and health through compliance assistance and enforcement of occupational safety and health regulations.			
<b>Performance Goal 1.1:</b> Total Reduction in the Fatality Rate by 1% (5% by end of FFY 2027)			
<b>Performance Goal 1.2:</b> Reduce the rate of occupational injuries and illnesses in Maryland’s private sector by 1% (5% by end of FFY 2027)			
<b>Performance Goal 1.3:</b> Reduce the rate of occupational injuries and illnesses in Maryland’s State and local government sector by 1% (5% by the end of FFY 2027)			
Unit Responsible (data source)	Performance Indicator	Result	Comments
Enforcement/ Compliance Assistance	Perform inspection and intervention activity in the following areas: <u>Industry</u> <span style="float: right;"><u>FY2023 Projected</u></span> a. Construction (NAICS 23).....948  b. Other high-hazard industries.....301 (NAICS 11, 5617, 562, 622-624, 71, 721)  c. Public Sector.....76  d. Manufacturing (NAICS 31-33).....106  e. Trade, Transportation, Utilities.....76 (NAICS 2213, 424, 44-45, 48-49)	<u>Industry</u> <span style="float: right;"><u>2023 Actual</u></span> a. Construction (NAICS 23).....756  b. Other high-hazard industries.....117 (NAICS 11, 5617, 562, 622-624, 71, 721)  c. Public Sector.....70  d. Manufacturing (NAICS 31-33)....111  e. Trade, Transportation, Utilities.....92 (NAICS 2213, 424, 44-45, 48-49)	<b>NOTE: Maryland’s private sector Days Away, Restricted, and Transfer (DART) rate for reference year 2022 was 1.6 injuries and illnesses per 100 full-time equivalent workers; 2021’s rate was 1.7.</b>
Consultation  OSHA Information System (OIS) Data for various metrics  (Bureau of Labor Statistics [BLS] survey of occupational injuries and illnesses)	Conduct the following number of Consultation visits: <u>Industry</u> <span style="float: right;"><u>FY2023 Projected</u></span> a. Construction (NAICS 23).....See CAPR  b. Other high-hazard industries.....See CAPR (NAICS 11, 5617, 562, 622-624, 71, 721)  c. Public Sector.....61  d. Manufacturing (NAICS 31-33).....See CAPR  e. Trade, Transportation, Utilities.....See CAPR (NAICS 2213, 424, 44-45, 48-49)	<u>Industry</u> <span style="float: right;"><u>2023 Actual</u></span> a. Construction (NAICS 23).....See CAPR  b. Other high-hazard industries.....See CAPR (NAICS 11, 5617, 562, 622-624, 71, 721)  c. Public Sector.....62  d. Manufacturing (NAICS 31-33)....See CAPR  e. Trade, Transportation, Utilities....See CAPR (NAICS 2213, 424, 44-45, 48-49)	MOSH had one 23(g) public sector consultant. All parameters for consultation can be found in the FY23 Consultation Annual Program Report (CAPR).

<b>Strategic Goal 2:</b> Promote a safety and health culture through Cooperative Programs, Compliance Assistance, On-site Consultation Programs, Outreach, Training and Education.			
<b>Performance Goal 2.1:</b> Increase Recognition Programs from 20 to 21 (3 new Recognition programs by end of FFY 2027)			
<b>Unit Responsible (data source)</b>	<b>Performance Indicator</b>	<b>Result</b>	<b>Comments</b>
Compliance Assistance (report from consultation unit and Voluntary Protection Program [VPP] unit)	Increase Recognition Programs by 1 new company for FY23.	There were no new sites added for FY23.	MOSH maintained 19 VPP STAR sites.
<b>Performance Goal 2.2a:</b> Increase Cooperative Compliance Partnerships (CCP) from 100 to 101 in 2023 (this is the total number of signed cooperative partnerships, not the total number of active cooperative partnerships) (add 8 new cooperative partnerships by the end of FY 2027)			
<b>Unit Responsible (data source)</b>	<b>Performance Indicator</b>	<b>Result</b>	<b>Comments</b>
Compliance Assistance (report from partnership and alliance unit)	Increase MOSH Cooperative Compliance Partnerships by 1 in 2023.	MOSH added one CCP site in FFY23	MOSH met its goal for the year and is on track to meet the 5-year goal.
<b>Performance Goal 2.2b:</b> Maintain SPECS partnerships at 5 (this is the total number of signed cooperative partnerships, not the total number of active cooperative partnerships)			
<b>Unit Responsible (data source)</b>	<b>Performance Indicator</b>	<b>Result</b>	<b>Comments</b>
Compliance Assistance (report from training and education unit)	Maintain SPECS partnerships at 5.	There were no new SPECS sites added for FY23.	There were no new SPECS sites added for FY23.
<b>Performance Goal 2.3:</b> Ensure a minimum of 12 MOSH outreach and training events annually.			
<b>Unit Responsible (data source)</b>	<b>Performance Indicator</b>	<b>Result</b>	<b>Comments</b>
Compliance Assistance (report from training and education unit)	MOSH will enact outreach and training events in the areas covered by MOSH LEPs, current SST, and Federal NEPs, including formal training, workshops, seminars, speaking engagements, conferences, and informal worksite training.	MOSH Outreach and Education conducted 20 speaking engagements, offered 12 First Aid/CPR/AED classes to staff, provided 15 in-house training sessions to new Compliance Safety and Health Officers (CSHO), conducted four online S&H webinars, attended four safety conferences and three recruiting/hiring events.	MOSH met its goal for FFY23 and plans to expand training via webinars & virtually-led instruction for employers/public in FFY24.

**Performance Goal 2.4:** Develop a public sector initiative program to leverage agency resources in the following areas: MOSH enforcement, partnerships/alliances, training, and consultation

Unit Responsible (data source)	Performance Indicator	Result	Comments
Compliance Assistance (report from training and education unit)	Number of initiatives enacted by the agency to increase focus on public sector workplaces in the State of Maryland.	Three initiatives: (1) MOSH met with the Secretary of the Workers' Compensation Commission to set up reciprocal sharing of injury and illness data and lay the foundation for joint efforts regarding public sector risk reduction; (2) MOSH 23(g) Consultation staff joined and actively participated in the State Employee Risk Management Association (SERMA); and (3) an evaluation was conducted to explore if legislative change was necessary in order to require public sector Log 300 submittal to MOSH from all public sector locations- it was determined the agency can move forward with potential regulations without a legislative change.	MOSH is actively engaged in seeking opportunities to increase safety and health in public sector locations.

**Performance Goal 3.1:** Initiate 100% of fatality and catastrophe inspections within one working day of notification

Unit Responsible (data source)	Performance Indicator	Result	Comments
Enforcement/ Compliance Assistance (OIS/Integrated Management Information System [IMIS])	Percentage of fatal case investigations initiated within 1 working day of notification.	According to the 2023 EOY State Activity Mandated Measures (SAMM) Measure 10, MOSH investigated 13 workplace fatalities (at the time of data collection), all of which were opened within one day of notification.	MOSH met its goal of 100% of fatality inspections initiated within one working day of notification.

**Performance Goal 3.2:** Initiate inspections of serious complaints within five working days of notification

Unit Responsible (data source)	Performance Indicator	Result	Comments
Enforcement/ Compliance Assistance (OIS/IMIS) SAMM Report	Serious complaint inspections are initiated within an average of 5 days of notification.	In FY23, MOSH initiated complaint inspections within an average of 3.44 days.	MOSH maintained complaint tracking and auditing processes that prevented outliers from exceeding 5 days.

<b>Performance Goal 3.3:</b> Percent of discrimination complaint investigations completed within 90 days maintained at least at 90%			
<b>Unit Responsible (data source)</b>	<b>Performance Indicator</b>	<b>Result</b>	<b>Comments</b>
Enforcement/ Compliance Assistance (whistleblower web-based application)	Percent of discrimination complaint investigations completed within 90 days.	This measure is not being reported for FY 2023 due to the transition of 11(c) data from IMIS to OIS.	In FFY23, investigators are still working to eliminate the backlog from previous years, and improve investigations and efficiency.

### Program Activity Projections:

<b>Total Inspections- Enforcement</b>				
	Safety		Health	
	Projected	Actual	Projected	Actual
Private Sector Inspections	1325	<b>1042</b>	106	<b>125</b>
Public Sector Inspections	65	<b>54</b>	11	<b>15</b>
Total	1390	<b>1096</b>	117	<b>140</b>

<b>Consultation Visits</b>			
	Projected	Actual	Total Visits
21(d) Projected Visits	*	*	*For results of the 21(d) consultation unit please see the FY23 Consultation Annual Program Report (CAPR) **There were 62 public sector 23g consultation visits conducted. Safety conducted 54 initial visits and 5 follow-up visits. Health conducted three initial and no follow-up visits.
23(g) Projected Visits Safety**	61	<b>59</b>	
23(g) Projected Visits Health**	0	<b>3</b>	
Total Visits	61	<b>62</b>	

## IV. Mandated Activities

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### Enforcement

According to the OSHA-derived SAMM report, MOSH Compliance Officers opened 1,236 enforcement inspections in FFY23, including 1,096 safety inspections and 140 health inspections. MOSH had projected 1,390 safety and 117 health inspections would be conducted; however, staff turnover contributed to a lower than anticipated number of safety inspections performed. MOSH lost seven safety compliance officers and two industrial hygienists in FFY23. Proportionately, MOSH exceeded expected safety inspections and investigation totals with the remaining staff and was able to far exceed the health goals. MOSH industrial hygienists achieved 120% of the projected goal of 117 health inspections. MOSH averaged 31 inspections per compliance officer, compared with 31, 30, and 31 average inspections per compliance officer in federal Regions 1, 2, and 3, respectively. MOSH maintained a 22% in compliance rate; a rate 50% lower than Regions 1, 2, and 3 combined (average of 45% in compliance rate amongst all three regions). MOSH averaged 125 violations per compliance officer as compared to, respectively, Region 1 (54), Region 2 (48), and Region 3 (60).

Although the self-imposed goal of total safety inspections was not achieved this year, thorough inspections/investigations in targeted industries ensured hazard identification and abatement remained the agency's top priority. Compliance officers continued to focus their efforts on the Maryland industries that have high injury and illness rates. Of the 1,236 enforcement inspections, 967 (74%) were conducted under one or more of the state's Local Emphasis Programs (LEPs), and 134 (10%) of the inspections were conducted under one or more of the adopted National Emphasis Programs (NEP). MOSH compliance officers investigated 108 accidents, a decrease of 8 from FFY22. MOSH investigated 18 workplace fatalities, well below historic averages; all were opened within one day of notification.

For the fifth consecutive year, there were no instances where a Compliance Officer was not able gain entry to a facility after an employer originally denied the inspection.

End-of-year SAMM data shows MOSH initiated complaint inspections, on average, in 3.44 days, which is within the five-day requirement. Complaint investigations were successfully initiated within an average of 1.46 days (down from 2.58 days in FFY22), which is within the three-day requirement.

Per SAMM Measure 5, MOSH Compliance Officers and Industrial Hygienists averaged 2.54 serious, willful, or repeat violations and 2.27 other-than-serious violations per case, for a total average of 4.81 violations per case file.

The average penalty per serious violation for all employers was \$892.89. MOSH issued an average penalty of \$758.00 per serious citation for employers with 25 employees or fewer, \$1,163.19 for employers between 26 and 100 employees, \$1,317.86 for employers between 101 and 250, and \$1,715.88 for employers with over 250 employees.

Based on the most recent U.S. Bureau of Labor Statistics results for reference year 2022, 42 states, 3 U.S territories, and the District of Columbia, all had publishable state-specific data. Maryland's private sector total recordable case incidence rate was 2.4 injuries and illnesses per 100 full-time equivalent (FTE) workers, slightly below the U.S. private sector's rate of 2.7.

SAMM Measure 9 shows there were 1,060 safety inspections completed, with 209 (19.72%) in compliance. There were also 111 health inspections completed with 20 (18.02%) in compliance. The MOSH in compliance rate is far below the national average, further reflecting successful targeting and utilization of limited resources.

More than 5.5% of all MOSH inspections were completed in the public sector, exceeding the FFY23 estimated goal of 5% in the public sector. MOSH continues to use an LEP to help focus on public sector establishments.

During FFY23, average lapse time for safety inspections was 44 days and health inspections 69 days, both of which were on par with other state plans' averages and lower than the federal average.

## **Consultation- Public Sector**

There were 62 public sector visits conducted; 59 safety and 3 health-related, reaching the goal of 61 visits for FFY23. Of the visits conducted, 48% were correctional facility-related while the remaining 42% were conducted in other public service sectors, such as transportation, and parks and recreation. The program achieved 101% of its visit goals.

Targeted outreach to state parks resulted in 14 visits conducted.

MOSH had one public sector safety consultant in 23(g) for FFY23. The public sector consultant was named as an acting supervisor upon the retirement of the Consultation Program Manager in March of 2023. When there are specific health concerns on a public sector site, one of the health consultants from the 21(d) program will temporarily transfer to the 23(g) program and perform the health visit; funding modifications between the two budgeted programs are properly allocated.

Consultation supported the Outreach unit by providing consultants to fulfill speaker and seminar requests. All of the public sector requests for service were fulfilled in a timely manner and employer surveys received by the Consultation unit rated the public sector consultant's service as "excellent."

## **Whistleblower**

FY23 was the first full year the MOSH Whistleblower Unit was assisted with help from four wage claims investigators and one manager from the Division of Labor and Industry (DLI) Employment Standards Unit. These investigators were cross-trained and received ongoing formal and informal training in order to conduct whistleblower investigations for MOSH.

In FY23, MOSH docketed 52 whistleblower complaints for a full investigation under §5-604 of the Labor and Employment Article, which parallels Section 11(c) of the OSH Act. Four investigations resulted in meritorious findings of over \$168,000 for the complainants.

## **Education Unit**

In FY23, the Training and Education Unit was able to provide a variety of training and outreach despite being affected by staffing challenges. Safety and Health training and education were offered to employers and the public via webinars, virtual and onsite speaking engagements, and targeted Outreach to specific high-hazard industries. In lieu of in-person training seminars, MOSH began offering more virtual learning opportunities through live webinars on topics such as This Is MOSH, Hazard Communication, and Silica in Construction.

MOSH was able to respond to speaker requests on a wide range of safety and health topics, including tree care, aerial lift safety, machine guarding, electrical safety & lockout/tagout, heat stress, and youth worker safety. In FFY23, more than 20 different employers, institutions, and government agencies requested a MOSH speaker at their job site or event, reaching a total of 1,310 employers, employees, and students. MOSH continues to respond to numerous requests for youth worker safety for high school students who are preparing to enter the workforce. In FY23, MOSH was able to provide Youth Worker Safety training to 725 students at 9 high school events throughout the state.

## **Staff Training**

In FFY23, compliance safety and health officers were able to attend both in-person and virtual courses offered through the OSHA Training Institute.

In-house classroom training for new CSHOs was conducted over 15 sessions which covered the MOSH Act, laws, and regulations, hazard recognition, citations and case writing, and Construction Subparts. New and junior CSHOs participated in on-the-job training. MOSH personnel, including veteran compliance safety and health officers and consultants, supervisors, and managers, provided the training which included classroom and hands-on practical instruction, and evaluation.

Training on tree care and heat stress was provided during all-staff meetings. Administrative staff were provided with in-depth training on Adobe Pro and basic redaction procedures for Maryland Public Information Act requests. More than 125 MOSH and DLI employees were trained in basic first aid, AED, and CPR with the assistance of a state workers' compensation organization.

## **Instructions and Standards Notices**

Title 5, Subtitle 12 of the Labor and Employment Article, Annotated Code of Maryland, Chapter 308, Laws of 2020 (House Bill 722) – Heat Stress Standards, requires the Commissioner of Labor and Industry, in consultation with the MOSH Advisory Board, to develop and adopt regulations to require employers to protect employees from heat-related stress in the workplace. In accordance with Ch. 308, MOSH hosted four regional informational sessions and reviewed public comments.

Proposed regulations were presented at a public MOSH Advisory Board Meeting on August 23, 2022, and unanimously supported by the Board, who commended the agency for its balanced and enforceable approach.

A proposed regulation was published in the Maryland Register on October 7, 2022. The 30-day comment period expired on November 7, 2022, during which 37 comments were received. The proposed regulations are currently being revised under a new Administration and additional stakeholder meetings are planned for winter of 2024.

No new Standards Notices were issued in FFY23. MOSH issued nine new instructions in FFY23, including:

- *Instruction 23-1 - Communicating with the Victim's Family - 11/15/2022*
- *Instruction 23-2 - Guidelines for Handling Discrimination Complaints - 1/19/2023 (Cancels MOSH Instruction 17-1 3/1/2017)*
- *Instruction 23-3 - Site-Specific Targeting (SST) FFY2023 - 3/10/23*
- *Instruction 23-4 - Local Emphasis Program (LEP) for High Hazard Industries in Maryland - 3/10/23*
- *Instruction 23-5 - Compliance Directive for Cranes and Derricks in Construction - 3/10/23*
- *Instruction 23-6 - Compliance Directive for the Excavation Standard - 3/10/23*
- *Instruction 23-7 - Instruction Procedures for Respirable Crystalline Silica Standards - 3/10/23*
- *Instruction 23-8 - Civil Penalties for Citations Issued as Other-Than-Serious - 3/10/23*
- *Instruction 23-9 - Implementation of Exemptions and Limitations Placed on MOSH Activities - 3/10/23*

\*Additional instructions were adopted in the first part of FFY24. MOSH continues to successfully adopt outstanding OSHA directives. Please see the website for the most up-to-date list. All MOSH instructions are available online at:

<http://labor.maryland.gov/labor/instructions/>

## **Cooperative Compliance Partnerships (CCP) & Voluntary Protection Program (VPP) - Star Only**

The Cooperative Compliance Partnership program continued its reorganization phase in FFY23. The CCP program added one new site and reviewed several others with various general contractors throughout the state of Maryland. Several new applications are currently undergoing review and are likely to become new partnerships in FFY24.

Due to reorganization and staffing challenges, no renewal inspections were completed and no new sites were added to the Voluntary Protection Program in FFY23. Maryland VPP continues to support the OSHA and Voluntary Protection Programs Participants' Association (VPPPA) and Special Government Employee (SGE) program, and intends to focus more resources and efforts toward VPP in FFY24.

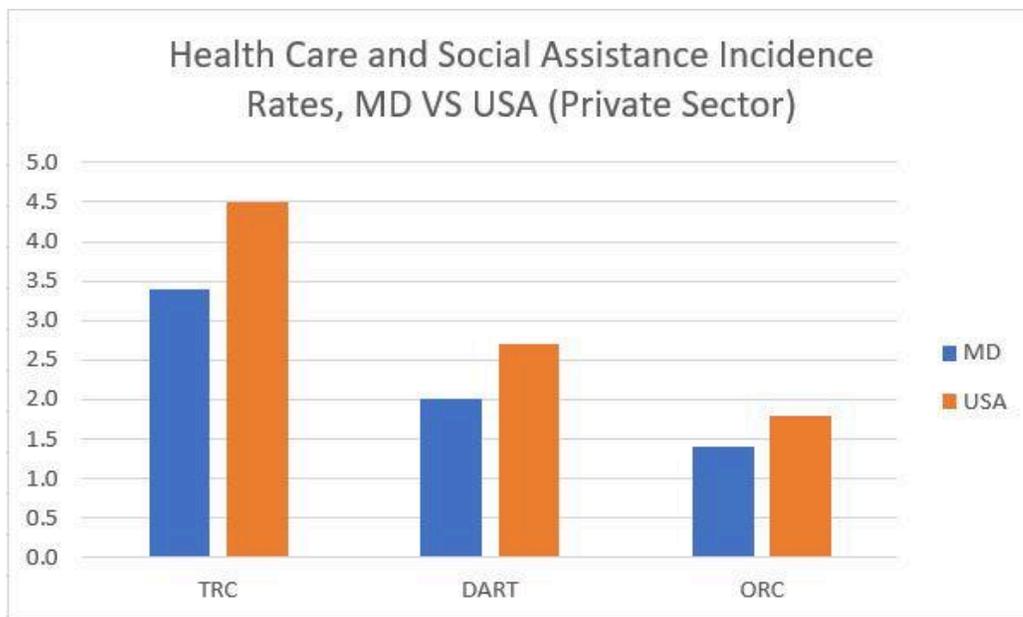
## Research and Statistics

In September 2023, the MOSH Research and Statistics unit completed the reference year 2022 data collection for the Bureau of Labor Statistics (BLS) Survey of Occupational Injuries and Illnesses (SOII) program. The statistics generated from this employer-based survey are the U.S. government’s official accounting of the safety and health issues facing America’s workplaces. The SOII charts the nature and magnitude of occupational injuries and illnesses across the United States. The dedication and perseverance of the Research and Statistics staff helps ensure that MOSH has reliable and timely occupational injury and illness data at its disposal for industry outreach initiatives, targeted enforcement, and other surveillance purposes.

### *Highlights of the Maryland Survey of Occupational Injuries and Illnesses*

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- In Maryland, the education and health services supersector had significant decreases in both its TRC and DART incidence rates from the previous year (4.1 and 2.4 in 2021) to 3.1 and 1.8 in 2022 respectively.
  - The information supersector had a significant decrease in its DART incidence rate from the previous year (1.4 in 2021 to 0.3 in 2022).
  - The Private Health Care and Social Assistance sector in Maryland is below the national TRC, DART and ORC rates. In Maryland this sector had a TRC rate of 3.1 and DART rate of 2.0 as compared to the National TRC rate of 4.5 and DART rate of 2.7 for 2022.
  - Maryland’s private industry TRC rate of 2.4 in 2022 was lower than the 2021 rate of 2.7. Maryland's TRC rate has generally been on a decline with the 2003 TRC rate being 4.1 and decreasing, with a few exceptions in 2010 and 2018, ever since.
- 



Total Recordable Incidence Rates per 100 Full-Time Workers for Total Nonfatal Occupational Injuries and Illnesses, Maryland and All USA, 2003-2022



Source: Maryland Division of Labor and Industry in cooperation with the Bureau of Labor Statistics, 2023  
 \*2006 Public Sector data did not meet publication criteria

## V. Special Measures of Effectiveness/Special Accomplishments

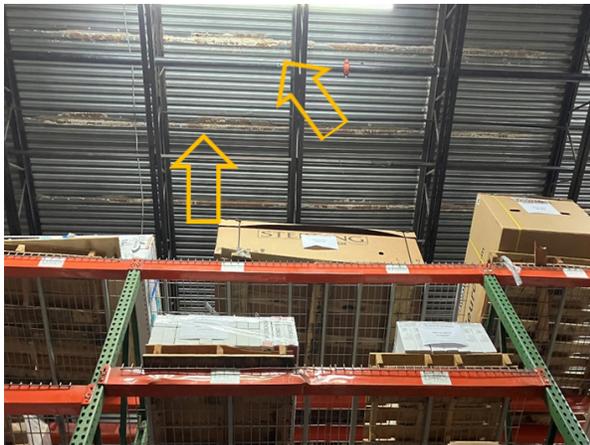
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### Case Highlights - Enforcement

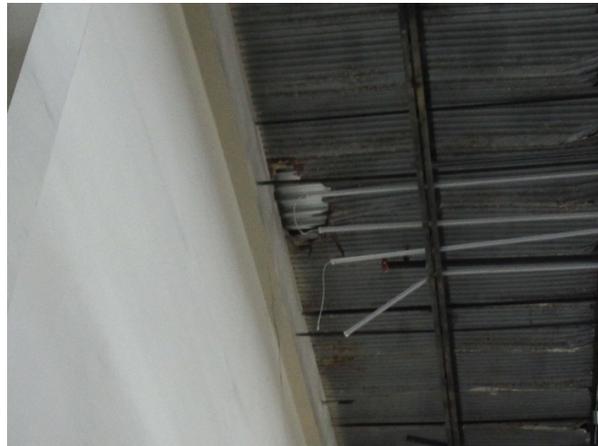
#### *Roofing Fatality*

On February 18, 2023, employees of a roofing contractor were working to replace the roofing membrane, insulation, and steel decking of an approximately 11,700-square foot section of flat roof above a warehouse. The victim was working to remove a six-inch layer of insulation from a portion of roof when he unknowingly stepped onto an area that was not structurally sound and the corroded steel decking underneath gave way. The victim fell through the roof 26 feet to the concrete warehouse floor below and suffered fatal head and neck injuries.

At the time of the MOSH inspection, approximately 90% of the roof had been replaced as the employer had been on site for one month prior. Employees, including the victim, were day laborers picked up by the employer from a nearby building supply store. Compliance officers observed that the remaining 10% of steel decking showed signs of significant corrosion, and similarly the previous steel deck before it was replaced. The employer failed to consider that the roof was 60 years old or properly inspect the structural integrity of the roof prior to performing work. The employer failed to provide fall protection equipment and training to employees prior to performing roofing work.



*Photo shows significant corrosion of roof decking*



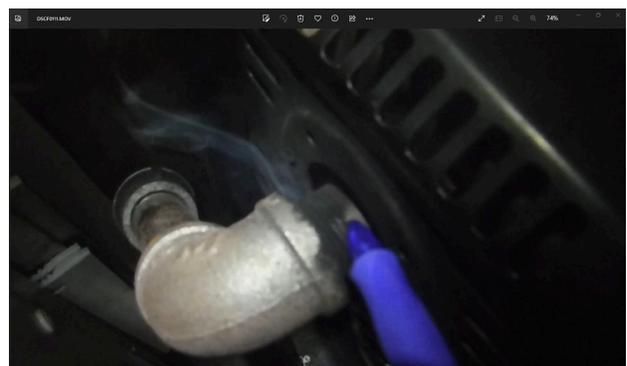
*Photo shows where the victim fell through.*

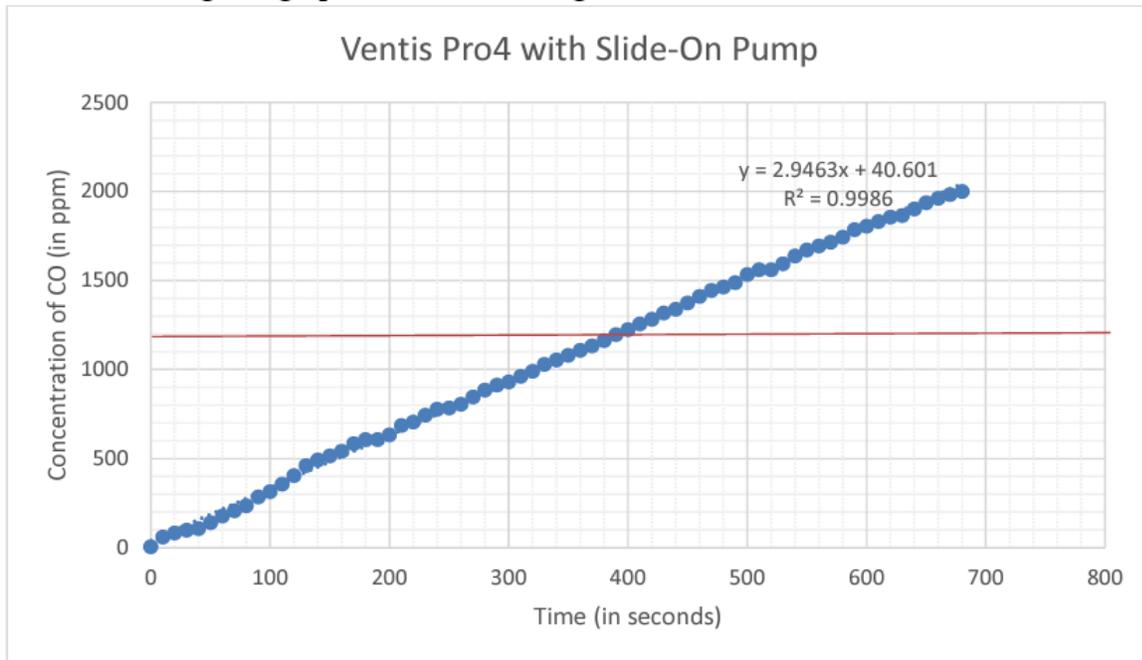
#### *Carbon Monoxide Fatality Inside of a Service Truck*

On February 22, 2023, MOSH was notified of a work-related fatality involving one employee reported to have died from carbon monoxide exposure while working inside the enclosed service

body of a utility truck with the door closed. The victim's carboxyhemoglobin level was determined to be 75%. Upon inspection, industrial hygienists (IHs) observed, installed in the back of the truck, a 30-gallon, two-stage air compressor powered by a 13-horsepower gasoline engine. Exhaust from the compressor was conveyed to the outside of the truck via a fabricated piping system. The compressor was reportedly used during normal service, maintenance, and repair activities. To determine how the carbon monoxide exposure occurred and estimate the carbon monoxide exposure levels inside the truck body resulting in the employee's death, MOSH IHs performed a series of tests.

1. To confirm the presence of carbon monoxide inside the compressor air tank, the IHs attached an air nozzle to the compressor's air hose and transferred a portion of the air within the air tank to an aluminized gas bag. A four-gas meter (with carbon monoxide sensor) and slide-on pump were then used to draw air from the bag revealing approximately 600 parts per million (ppm) of carbon monoxide inside the compressor tank.
2. To confirm the piping system was leaking exhaust air into the body of the truck, MOSH IHs tested the exhaust system for leaks using a modified pipe cap with a drilled hole to administer smoke from smoke tubes into the exhaust pipe at the terminal end outside of the truck. A small electric air compressor was then used to apply slight positive pressure to the exhaust system in order to allow the smoke to escape from unsealed points in the piping configuration. The compressor's engine was rotated to close both the intake and exhaust valves, preventing any smoke from entering the engine. The IHs found leaks at each coupling and threaded connection of the multiple-component piping system.
3. MOSH IHs then assessed carbon monoxide concentration inside the truck body while (a) the air compressor was in operation and (b) the door to the truck box was closed. One four-gas meter in data logging mode was placed inside the truck near the air compressor. A second gas meter with slide-on pump was placed on the exterior of the truck and fitted with tubing to draw air from the inside of the truck body, allowing MOSH inspectors to monitor real-time CO levels inside the truck while the compressor was running. Carbon monoxide levels within the back of the service truck reached levels that were immediately dangerous to life or health (IDLH) in approximately seven minutes. The IDLH concentration for carbon monoxide is 1,200 ppm.





**Photo 1** (upper left) shows the inside of the service truck body with the compressor installed forward of the rear entry doors closest to the cab. **Photo 2** (upper right) shows one of the identified leak points of the fabricated exhaust system. **Photo 3** (lower right) depicts the increase in CO inside the truck with the compressor running. An IDLH atmosphere was reached in seven minutes.

## VI. Adjustments or Other Issues

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### Organizational Changes

During FFY23, the Division of Labor and Industry said farewell to our previous Commissioner, Matt Helminiak, and welcomed Commissioner Devki Virk. MOSH lost two industrial hygienists, seven safety compliance officers, one program manager, one administrative specialist, and several administrative staff members. MOSH added one industrial hygienist and six safety compliance officers to its enforcement staff. One lead consultant was promoted to Supervisor of Consultation. MOSH hired one administrative officer to serve as the Coordinator of Outreach and Training. The Chief of Compliance is currently the Acting Assistant Commissioner.