Audit of the Department of Utilities Workplace Safety

Report # 2018-02|May 2018

The Department of Utilities' Incident Rate Has Been Trending Downward

The Department of Utilities Lacks Sufficient Controls Over the Administration and Use of Safety and Personal Protective Equipment

The Department of Utilities Can Strengthen Compliance with Vehicle Safety Requirements

The Department of Utilities Can Enhance Compliance with City Safety Policies, State Laws, and Federal Regulations

The Department of Utilities Should Implement Health and Safety Best Practices to Reduce Risks and Improve Accountability

City of SACRAMENTO

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City of SACRAMENTO
Office of the City Auditor

AUDIT FACT SHEET

Audit of the Department of Utilities Workplace Safety

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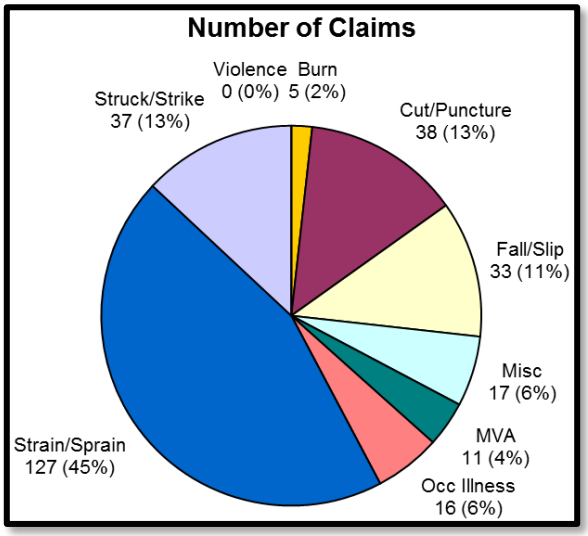
Background

The Department of Utilities is responsible for the City's water, wastewater, and storm drainage services. In administering these services, the department is committed to providing a safe work environment for all its employees. The Department of Utilities has filed nearly 300 workers' compensation claims over the last five fiscal years. This audit assesses the controls over the Department of Utilities workplace safety practices and identifies areas of risk and opportunities for improvement.



Source: Auditor generated based on reports provided by the City's Workers' Compensation Unit.

Culture Survey

We conducted an anonymous employee survey to get a sense of the department's safety culture. The survey consisted of 35 questions regarding management commitment, communication, employee involvement, training/information, learning organization/motivation, and compliance with policies and procedures. Approximately 43 percent of the department's more than 500 employees responded to the survey. Overall, the survey results were generally positive. However, some responses contrasted with auditor observations during jobsite inspections.

Recommendations

We made 22 recommendations aimed at improving compliance and enhancing accountability. Our recommendations include establishing or updating policies and procedures, considering additional labor negotiations, training, monitoring data, reviewing documentation, conducting job hazard analysis, and creating formal implementation plans.

What We Found

The Department of Utilities' Incident Rate Has Been Trending Downward

Our benchmark survey demonstrates that the City of Sacramento's Department of Utilities' incident rate is generally lower than comparable departments in other cities and has been trending downward over the last five fiscal years. However, the lower incident rate at East Bay Municipal Utility District indicates the potential for further improvement in the Department of Utilities.

The Department of Utilities Lacks Sufficient Controls Over the Administration and Use of Safety and Personal Protective Equipment

- The department's personal protective equipment guidelines lack clarity as to when or which safety and personal protective equipment is required;
- Expired products and lack of documented inspections could result in inadequate safety equipment;
- Management can strengthen controls to detect and deter fraudulent reimbursement requests for personal protective equipment; and
- The department's gas monitoring program lacks accountability.

The Department of Utilities Can Strengthen Compliance with Vehicle Safety Requirements

- The department's collision frequency rate and number of liability claims filed have decreased;
- Thirty-seven percent of the department's vehicle fleet is not tracked with a global position system (GPS);
- Compliance with State required vehide pre- and post-trip inspections can be improved;
- Compliance with speed limits could decrease the severity of vehicle collisions; and
- The City's *Wireless Telephone Use While Driving* policy is outdated.

The Department of Utilities Can Enhance Compliance with City Safety Policies, State Laws, and Federal Regulations

- The department lacks written procedures for the control of hazardous energy (lockout/tagout);
- The department does not have a mechanism to ensure compliance with confined space requirements;
- The department's fall protection controls appear to be haphazard; and
- Cal/OSHA required tailgate safety meetings did not occur in 93 percent of our sample.

The Department of Utilities Should Implement Health and Safety Best Practices to Reduce Risks and Improve Accountability

- The department could benefit from conducting job hazard analyses and the application of the hierarchy of controls;
- Incident investigations could better align with best practices;
- Formalizing implementation plans can enhance accountability; and
- A management of change process could help minimize risks.

Introduction

In accordance with the City Auditor's 2017-18 Audit Plan, we have completed the *Audit of the Department of Utilities Workplace Safety*. We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The City Auditor's Office would like to thank the Department of Utilities and the Human Resources Department for their cooperation during the audit process.

Background

The City of Sacramento Department of Utilities is responsible for the City's water, wastewater, and storm drainage services. In providing these services, the Department of Utilities (DOU) works in conjunction with other City departments as well as regional, state, and federal agencies towards the maintenance, development, and rehabilitation of the City's water resources infrastructure. Their mission is to support economic development, protect the environment, and improve the quality of life in the City of Sacramento.

In pursuit of their mission, the Department of Utilities is committed to providing a safe work environment for all its employees. Maintaining a safe work environment is important because it can reduce losses by preventing injuries, property damage, operational disruptions, schedule delays, and wasted resources. According to various Department of Utilities' policies and procedures manuals, "The elimination of personal injuries, occupational diseases and property damage resulting from accidents and work exposure are management's key objectives."

Maintaining a safe work environment is important because it can reduce losses by preventing injuries, property damage, operational disruptions, schedule delays, and wasted resources.

Workplace Safety

The promotion of safe working conditions and compliance with regulations are key components of health and safety in the workplace. The City of Sacramento defines the workplace as "any place where City business is conducted, including City buildings and property, City vehicles, private vehicles while used on City business, other assigned work locations and off-site training." Essentially, this means that any place an employee is required to be physically present during work hours is considered the workplace.

Department of Utilities Staffing

The Department of Utilities has three major divisions in addition to the Office of the Director: Business Services, Engineering and Water Resources, and Operations and Maintenance. There are over five hundred employees within the department; staffing levels of the various divisions can be seen in the figure below.

Figure 1: Department of Utilities Division Staffing

Utilities Division Budgets	FY2014/15 Actuals	FY2015/16 Actuals	FY2016/17 Approved	FY2016/17 Amended	FY2017/18 Approved	Change More/(Less) Approved/Amended
Business Services Division	72.18	71.18	63.18	64.18	70.18	6.00
Engineering & Water Resources Division	115.72	125.72	114.72	114.72	120.72	6.00
Office of the Director - DOU	9.00	9.00	9.00	8.00	8.00	-
Operations & Maintenance Division	327.50	332.00	341.00	341.00	347.00	6.00
Total	**524.40**	**537.90**	**527.90**	**527.90**	**545.90**	**18.00**

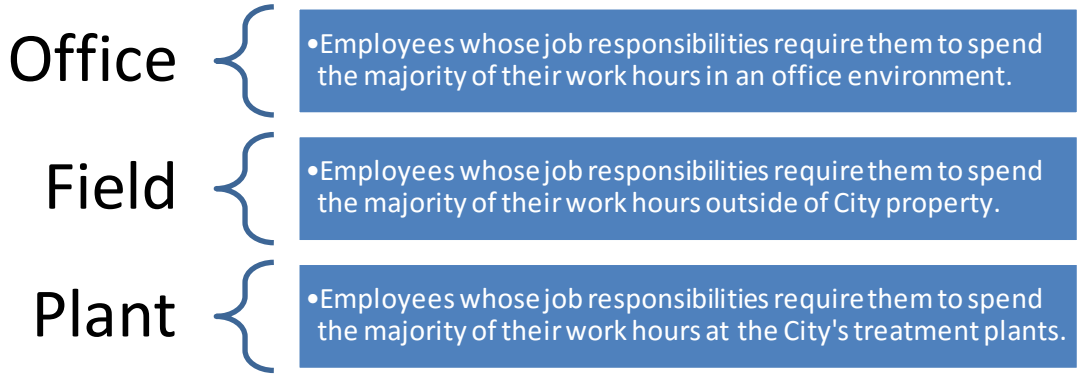
Source: *City of Sacramento Approved Budget Fiscal Year (FY) 2017/18.*

Note: The City of Sacramento's fiscal year is from July 1 to June 30.

Department of Utilities Working Conditions

Various working conditions exist for employees with different job responsibilities. For example, Customer Service Representatives generally spend the majority of their work hours at a desk or the public counter while Operations and Maintenance Serviceworkers generally spend the majority of their work hours in the field. For the purposes of this audit, we have broadly grouped employees into three categories: Office, Field, and Plant. Figure 2 below defines these categories for this audit engagement.

Figure 2: Employee Working Condition Categories

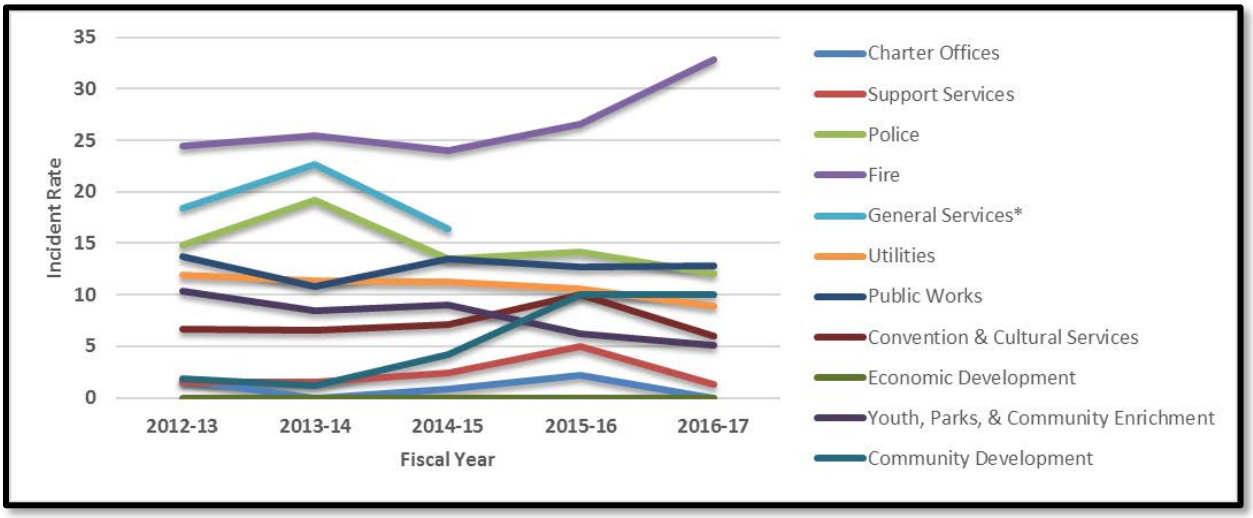


Source: Auditor generated based on the Department of Utilities' organizational structure.

Employee working conditions are a determining factor in the types of health and safety hazards that employees may encounter. For example, a plant employee may be exposed to hazardous chemicals more frequently than an office employee. Figure 3 below illustrates how City departments with mostly field

and plant employees generally have higher incident rates[1] than departments with mostly office employees. Based on this workers' compensation data, health and safety hazards associated with field and plant employees appear to have an elevated level of risk. As there are field and plant employees in the Department of Utilities, the department's level of risk associated with workplace safety is elevated.

Figure 3: City-wide Workers' Compensation Incident Rate FY 2012-13 through FY 2016-17



Source: Auditor generated based on data provided by the City's Workers' Compensation Unit.
*Due to a citywide reorganization, the Department of General Services was disbanded prior to the start of Fiscal Year 2015-16 and reallocated among Support Services, Community Development, and Public Works.
Note: The numbers in this figure have not been audited.

Risk Management

The City of Sacramento strives to maintain a work environment that protects the health of employees and prevents accidental injury to employees. To realize this goal, the Department of Human Resource's Risk Management Division provides support to City departments through their Workers' Compensation and Loss Prevention units.

Workers' Compensation Unit

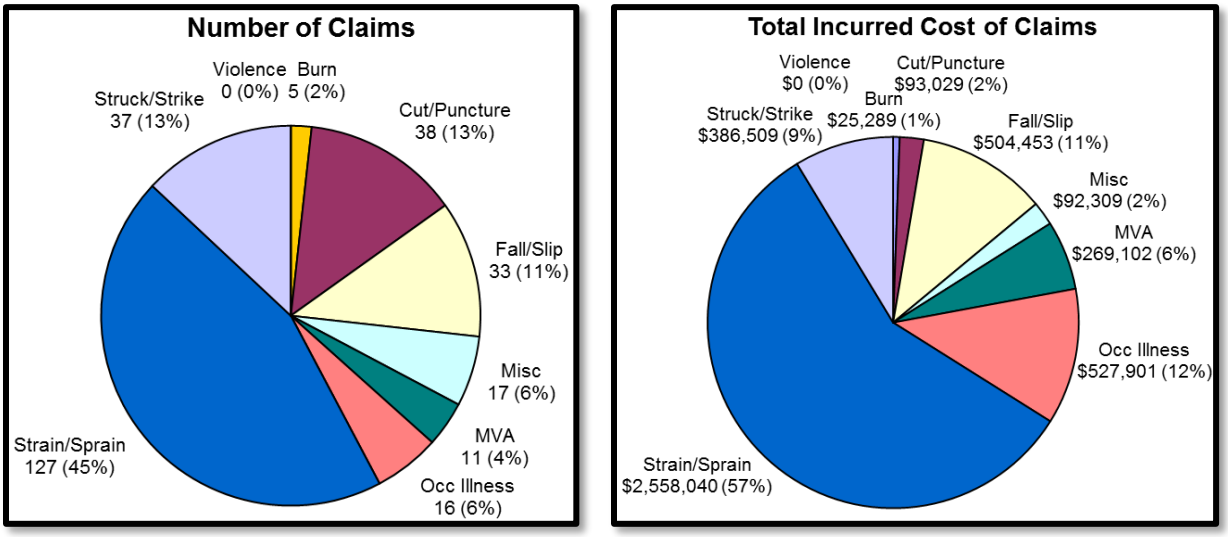
The City of Sacramento has self-insured and self-administered workers' compensation claims since 1981. Workers' Compensation Claims

[1] The City of Sacramento defines "incident rate" as the number of workers' compensation claims reported per 100 full-time equivalent employees.

Representatives assist employees injured on the job by providing benefits such as indemnity benefits, salary continuation, and medical benefits in accordance with the California Labor Code and City Charter.

There are five types of benefits provided under workers' compensation laws: medical care, temporary disability benefits, permanent disability benefits, supplemental job displacement benefits, and death benefits. Between fiscal years 2012-13 and 2016-17, employees in the Department of Utilities filed nearly 300 workers' compensation claims. The total incurred cost of these claims was over $4 million dollars. The figure below illustrates a breakdown of these claims by injury type.

Figure 4: Department of Utilities Workers' Compensation Claims FY 2012-13 through FY 2016-17



Source: Auditor generated based on reports provided by the City's Workers' Compensation Unit.
Note: The numbers in these figures have not been audited.

Loss Prevention Unit

According to the Risk Management Division's FY 2016-17 annual Report, the primary goal of the Loss Prevention Unit is to reduce the number and severity of injuries and accidents to minimize employee injuries and claim costs. The City's loss prevention activities, which are intended to prevent accidents before they occur, include the following: training, monitoring vehicle safety, consultation, employee recognition, environmental compliance, and support services. Environmental Health and Safety staff consult with City of Sacramento departments on workplace health and safety issues. Currently, there are two Environmental Health and Safety Specialists assigned to the Department of

Utilities[2]. The responsibilities of the Environmental Health and Safety staff can be seen in the figure below.

Figure 5: Responsibilities of Environmental Health and Safety Staff

Environmental Health and Safety Officer	Environmental Health and Safety Specialists
• Coordinating development and implementation of the City's Illness and Injury Prevention Program (IIPP) with all Departments and Divisions. • Maintaining records of employee accidents, injuries, medical records, and baseline biological monitoring. • Tracking hazard reports and safety concerns through resolution. • Providing statistical reports regarding work-related injuries to Department Directors/Division Managers. • Investigating and reporting to Cal/OSHA serious injuries resulting in hospitalization or fatality, and providing recommendations to prevent reoccurrence.	• Assisting the Department Directors/Division Managers with implementation of the City's Illness and Injury Prevention Program (IIPP). • Providing technical assistance on occupational health and safety issues to departmental directors and managers. • Participating in departmental safety committee meetings. • Assisting the Environmental Health and Safety Officer with development and administration of the IIPP. • Conducting environmental monitoring of work sites where employees have potential exposure to harmful biological, chemical, or physical agents. • Investigating reports of hazardous conditions, accidents, injuries, and near misses, as needed.

Source: City of Sacramento *Illness and Injury Prevention Program* (IIPP).

Information Management Systems

The City of Sacramento uses various systems to document and track data related to workplace safety. For example, the City uses the global positioning systems (GPS) Zonar and Remote Vehicle Analytics (RVA) to track its vehicle fleet, TargetSolutions to track and store data related to training, and Systema to track and store workers' compensation data.

Global Positioning Systems (GPS)

In 2009, the City of Sacramento contracted with Zonar Systems, Inc. for GPS services to track the City's vehicle fleet. In 2014, the City expanded these services by contracting with Utilimarc, Inc. to purchase RVA. The City uses these systems to provide efficient driving routes as well as track idle times, speed violations, engine problems, and trip distances.

[2] While two Environmental Health and Safety Specialist positions are assigned to the Department of Utilities, recently, one of these positions became vacant.

TargetSolutions

In May 2013, the City of Sacramento entered into a five-year contract with Target Solution, Inc. to process and store training-related documentation. TargetSolutions is an online training and records management system that enables organizations to maintain compliance with training requirements, deliver curriculum, and track training. System administrators assign training to users and track training and documentation that are critical to the organization.

Federal and State Regulations

The Occupational Safety and Health Administration (OSHA) is a federal agency that sets and enforces health and safety standards in the workplace. OSHA was created in 1971 with the passing of the Occupational Safety and Health Act of 1970 (OSH Act). OSHA's mission is to "assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance." The OSH Act covers most private-sector employees and some public-sector employees; City of Sacramento employees are covered by the OSH Act.

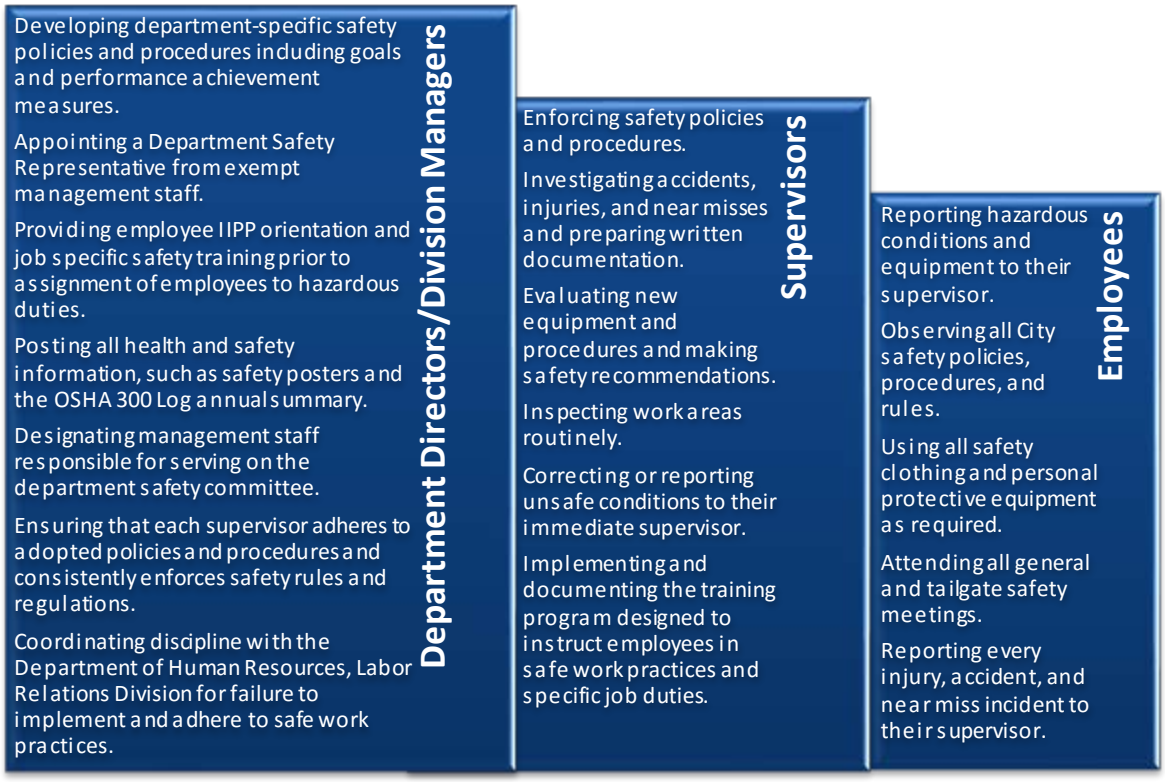
Cal/OSHA is the state of California's OSHA-approved agency that investigates and enforces health and safety requirements in California. The health and safety standards adopted by Cal/OSHA are at least as effective as the federal OSHA standards. As the California workplace health and safety enforcement agency, Cal/OSHA assesses civil penalties for non-compliance with standards. Penalties are assessed based on the type of violation: Regulatory, General, Serious, Repeat, Willful, or Failure to Abate. For example, a Regulatory violation can have a penalty as low as $500 per violation while Willful or Repeated violations can have penalties up to $127,254 per violation.

Cal/OSHA is the state of California's OSHA-approved agency that investigates and enforces health and safety requirements in California.

Health and Safety Policies and Procedures

Cal/OSHA requires employers to develop and implement employee illness and injury prevention programs. The City of Sacramento's *Illness and Injury Prevention Program* (IIPP) integrates all of the policies and procedures intended to identify and control occupational hazards. While the City Manager is ultimately responsible for establishing and maintaining a safe and healthy workplace, it is the responsibility of Department Directors and Division Managers to implement the IIPP for operations under their control. Figure 6 below illustrates the hierarchy of responsibilities within each department.

Figure 6: Hierarchy of Department Responsibilities



Source: Auditor generated based on the City's *Illness and Injury Prevention Program* (IIPP).

Additionally, the City addresses workplace safety in other citywide policies. For example, the City's *Workplace Violence Policy* demonstrates the City's commitment to providing a safe workplace free from violence and threats of violence, while also outlining supervisor action plans. Another example of a citywide policy addressing workplace safety is the *City Employee's Transportation Policy and Procedures*, which provides guidance on performing vehicle safety inspections. These and other citywide policies set requirements and provide guidance for employee workplace safety.

The Department of Utilities has supplemented citywide policies with departmental policies and procedures manuals and standard operating procedures that provide employees with direction on how to complete work tasks in a safe manner. These policies and procedures generally set expectations for employees on a more granular level than citywide policies.

Health and Safety Best Practices

Best practices are a set of working methods that are accepted as being the best to use in a particular business or industry. While organizations are not required

to adhere to best practices, research and experience generally support best practices as procedures that produce optimal results. Various organizations have established best practices in the health and safety industry. For example, OSHA has developed *Recommended Practices for Safety and Health Programs*[3] (OSHA's *Recommended Practices*) that identified seven core elements of safety and health programs. These can be seen in figure 7 below.

Figure 7: Core Elements of OSHA's *Recommended Practices for Safety and Health Programs*

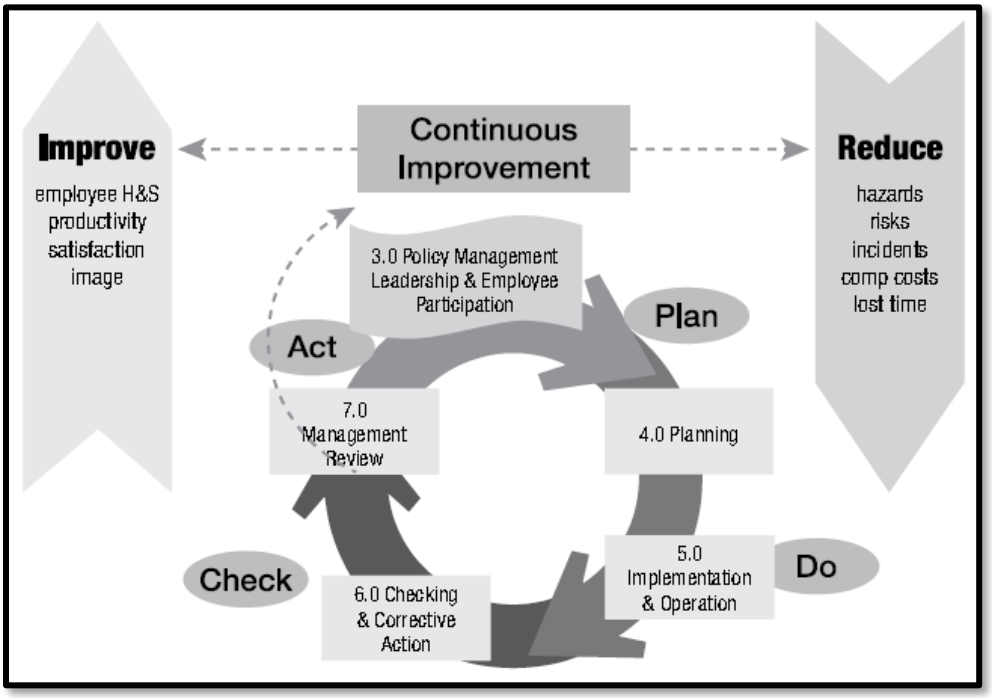
Source: Auditor generated based on OSHA's *Recommended Practices for Safety and Health Programs*.

Another example of health and safety best practices are the standards set by the American National Standards Institute, Inc. (ANSI) and the American Industrial Hygiene Association (AIHA) in *Occupational Health and Safety Management Systems*[4] (ANSI/AIHA *OHSMS*). As illustrated in figure 8 below, these standards define an occupational health and safety management system (OHSMS) continual improvement cycle based on the concept of "Plan-Do-Check-Act."

[3] Occupational Health and Safety Administration, OSHA 3885, *Recommended Practices for Safety and Health Programs*, October 2016.

[4] American National Standards Institute, Inc. and the American Industrial Hygiene Association, ANSI/AIHA Z10-2012, *Occupational Health and Safety Management Systems*, June 27, 2012.

Figure 8: Occupational Health and Safety Management System Continuous Improvement Cycle



Source: ANSI/AIHA Z10-2012 *Occupational Health and Safety Management Systems*.

While other organizations have also developed health and safety best practices, this audit focuses on the standards set by OSHA's *Recommended Practices* and ANSI/AIHA *OHSMS*.

Objective, Scope, and Methodology

The objective of this audit was to assess the controls over the Department of Utilities' workplace safety and identify areas of risk and opportunities for improvement. Additionally, we assessed the controls in place designed to deter and detect fraud in relation to workplace safety. Our scope included Department of Utilities' safety-related data and records for FY 2012-13 through the majority of FY 2017-18. We reviewed the Department of Utilities' policies and procedures, illness and injury prevention program, tracking and reporting of incidents, workers' compensation claims, and OSHA compliance. Additionally, we reviewed training records, observed safety meetings, and performed ride-alongs to observe vehicle and jobsite safety procedures.

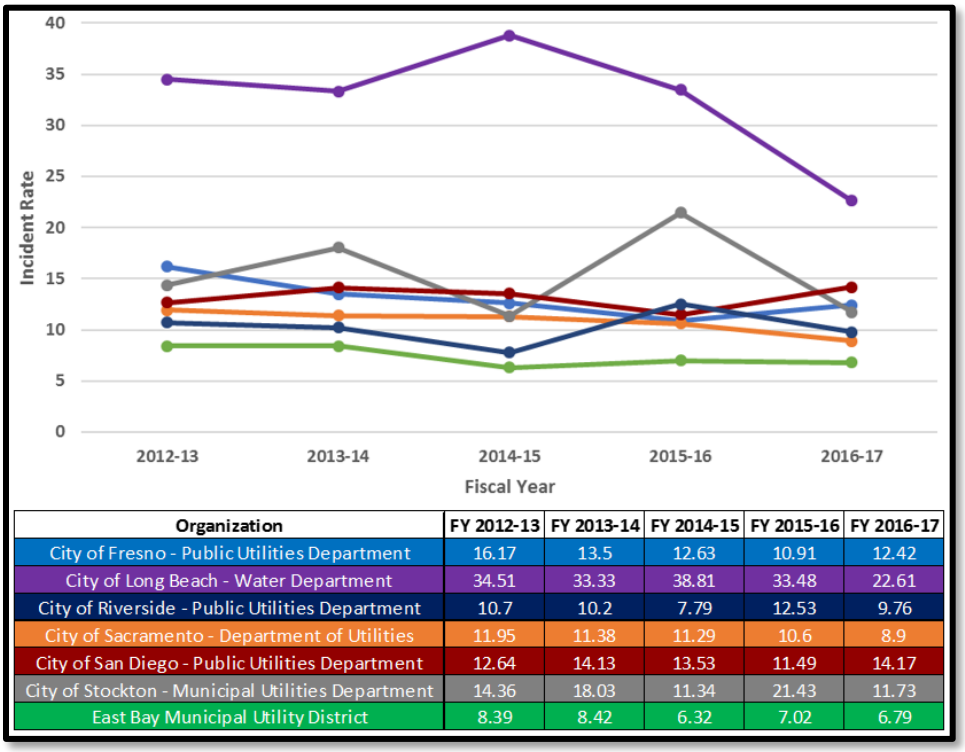
Finding 1: The Department of Utilities' Incident Rate Has Been Trending Downward

The City's Risk Management Division tracks workers' compensation information such as the number of claims reported, the ultimate cost of claims, and the causes of claims. As previously noted, the City of Sacramento defines "incident rate" as the number of workers' compensation claims reported per 100 full-time equivalent employees. By normalizing the number of workers' compensation claims by a set number of employees, the City is able to compare itself with other cities as well as compare the various City departments to each other, as seen in figure 3 in the Background.

As discussed in the Background, the incident rate for each department is influenced by employee working conditions. To provide additional context for the Department of Utilities' incident rate, we performed a benchmark survey of incident rates with comparable departments in other cities. As seen in figure 9 below, the incident rate for the City of Sacramento's Department of Utilities is trending downward and was generally lower than comparable departments in other cities over the last five fiscal years.

The incident rate for the Department of Utilities is trending downward and was generally lower than comparable departments in other cities over the last five fiscal years.

Figure 9: Department of Utilities Incident Rate Benchmark Survey Fiscal Year 2012-13 through 2016-17



Organization	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17
City of Fresno - Public Utilities Department	16.17	13.5	12.63	10.91	12.42
City of Long Beach - Water Department	34.51	33.33	38.81	33.48	22.61
City of Riverside - Public Utilities Department	10.7	10.2	7.79	12.53	9.76
City of Sacramento - Department of Utilities	11.95	11.38	11.29	10.6	8.9
City of San Diego - Public Utilities Department	12.64	14.13	13.53	11.49	14.17
City of Stockton - Municipal Utilities Department	14.36	18.03	11.34	21.43	11.73
East Bay Municipal Utility District	8.39	8.42	6.32	7.02	6.79

Source: Auditor generated based on benchmark survey results.
Note: The numbers in this figure have not been audited.

This benchmark survey demonstrates that the City of Sacramento's Department of Utilities incident rate is generally lower than comparable departments in other cities and has been trending downward over the last five fiscal years; however, the lower incident rate at East Bay Municipal Utility District indicates the potential for further improvement in the Department of Utilities. This report identifies areas of risk for the Department of Utilities' workplace safety and makes recommendations aimed at reducing this risk and enhancing compliance with health and safety regulations.

Finding 2: The Department of Utilities Lacks Sufficient Controls Over the Administration and Use of Safety and Personal Protective Equipment

Personal protective equipment (PPE) is equipment that can be worn to minimize exposure to hazards that can cause serious workplace injuries and illnesses. Examples of PPE can include gloves, safety glasses, safety shoes, ear plugs, hard hats, and vests. Our review of the Department of Utilities' administration and use of safety and personal protective equipment found that, in some cases, insufficient controls failed to detect fraud as well as exposed employees to unsafe working conditions when equipment was not used appropriately. Specifically, we found:

- The department's personal protective equipment guidelines lack clarity as to when or which safety and personal protective equipment is required;
- Expired products and lack of documented inspections could result in inadequate safety equipment;
- Management can strengthen controls to detect and deter fraudulent reimbursement requests for personal protective equipment; and
- The department's gas monitoring program lacks accountability.

Personal protective equipment (PPE) is equipment that can be worn to minimize exposure to hazards that can cause serious workplace injuries and illnesses.

According to OSHA's *Recommended Practices,* "Effective controls protect workers from workplace hazards; help avoid injuries, illnesses, and incidents; minimize or eliminate safety and health risks; and help employers provide workers with safe and healthful working conditions." To enhance controls and accountability over the administration and use of safety and personal protective equipment, we recommend the Department of Utilities clarify existing policies and procedures and establish policies and procedures where there currently are none.

The Department's Personal Protective Equipment Guidelines Lack Clarity as to When or Which Safety and Personal Protective Equipment is Required

The City's IIPP sets expectations for the use of safety and personal protective equipment for certain types of work. For example, the IIPP requires employees who are working in or around excavations to wear the following minimum PPE: ANSI 107 compliant Class 2 or higher high visibility clothing, ANSI Z-89 compliant hard hat, ANSI Z-87 compliant safety glasses, and an approved work uniform. The Department of Utilities' policies and procedures manuals also set expectations for the use of safety and personal protective equipment. For

example, the Water Distribution policies and procedures manual requires gloves to be worn when hands are exposed to potential cuts, abrasions, bruises or burns.

However, not all job duties are covered under the City's IIPP or departmental policies and procedures manuals. For example, the Department of Utilities' Engineering and Water Resources Division has no departmental safety policies in place. In addition, where policies and procedures do exist, requirements can be unclear. For example, the Water Distribution policies and procedures manual requires employees to wear hard hats "at all times, where applicable." Lack of documented policies and procedures or policies with vague requirements can increase the risk of employees failing to use safety and personal protective equipment appropriately.

Failure to use safety and personal protective equipment appropriately can result in possible injury to employees.

Failure to use safety and personal protective equipment appropriately can result in possible injury to employees. For example, in FY 2016-17, one employee in the Department of Utilities had sewage splashed in their face and eyes while working on a pump; this may have been prevented if the employee was wearing a face shield. However, it is unclear whether any of the department's safety policies required a face shield when performing this task. If the department's intent is to require a face shield, memorializing this intent with clear policy language could reduce the risk of this incident reoccurring.

To ensure employees were using safety and personal protective equipment appropriately while performing their job duties, we conducted several jobsite inspections in conjunction with the Human Resources' Loss Prevention Unit. Based on these inspections, it appears that employees were inconsistent in their use of safety and personal protective equipment. Figure 10 below illustrates the results of the jobsite inspections.

Figure 10: Results of Jobsite Inspections

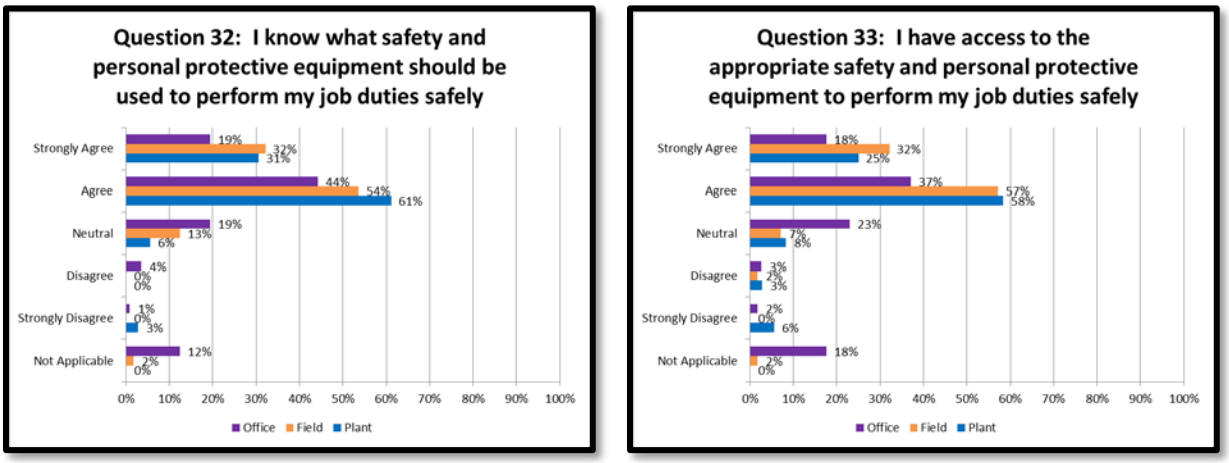
Jobsite Inspection #1	Hard hats and hearing protection were used appropriately.	Gas monitor was used prior to opening manhole.	Spotter was used during vehicle operation.	Street signs and cones were used appropriately.	Safety glasses were not used appropriately.	Safety vests were not secured.	Gas monitor was not bump tested prior to usage.	
Jobsite Inspection #2	Hard hats were used appropriately.	Street signs and cones were used appropriately.	Safety glasses and safety vests were not used appropriately.	Expired first aid kit.	Missing Safety Data Sheets.	One vehicle had a damaged step ladder.	One vehicle had broken panel held together by duct tape.	Portable fire extinguisher missing documentation of monthly inspections.
Jobsite Inspection #3	Hard hats, safety vests, and gloves were used appropriately.	Appropriate lifting equipment and techniques were used.	Street signs and cones were used appropriately.	Hearing protection and safety glasses were not used appropriately.	Expired eye wash.	Gas monitor was not in continuous use.	There was unsecured equipment on a vehicle that could fall off.	Portable fire extinguisher missing documentation of monthly inspections.

Source: Auditor generated based on jobsite inspections.

To gain an understanding of the Department of Utilities' safety culture, our office conducted an employee workplace safety survey (see Appendix A). As seen in the figure below, employees in the Department of Utilities generally agree that they know what safety and personal protective equipment is required to perform their job duties safely, and that they have access to this equipment. This is in line with OSHA regulations, which requires employers to train employees who are required to use PPE to know when PPE is necessary; what kind of PPE is necessary; how to properly put the PPE on, adjust it, wear it, and take it off; the limitations of the PPE; and the proper care, maintenance, useful life, and disposal of the PPE. However, based on the jobsite inspections noted above and use of gas detectors discussed later in this report, it appears that there is a disconnect between employee understanding of safety and personal protective equipment requirements and the implementation of those requirements. This indicates that the Department of Utilities has not adequately communicated this information to employees and that management's oversight of safety and personal protective equipment may be lacking.

Based on jobsite inspections, it appears that there is a disconnect between employee understanding of safety and personal protective equipment requirements and the implementation of those requirements.

Figure 11: Results of Department of Utilities Workplace Safety Survey – Questions Related to Personal Protective Equipment



Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.
Note: See Appendix A for methodology and full survey results.

In addition to potential employee injury, failure to comply with OSHA regulations could result in monetary penalties as described earlier in this report. To decrease the risk of safety incidents and ensure employees use safety and personal protective equipment appropriately, we recommend the Department of Utilities review and update related policies and procedures to fill in gaps and clarify the appropriate use of safety and personal protective equipment.

RECOMMENDATIONS:

We recommend the Department of Utilities:

1. Review and update existing policies and procedures concerning safety and personal protective equipment to fill in gaps and clarify its appropriate use.
2. Establish policies and procedures concerning safety and personal protective equipment where none currently exist.

Expired Products and Lack of Documented Inspections Could Result In Inadequate Safety Equipment

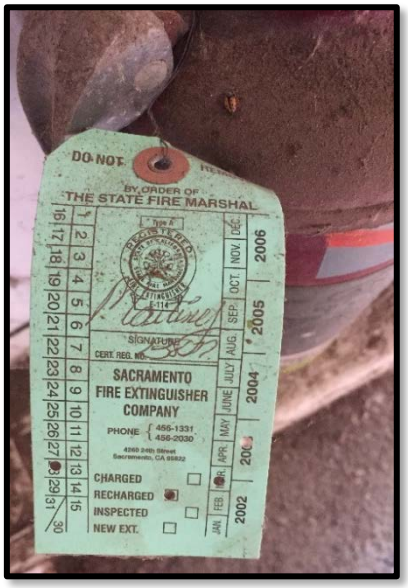
According to OSHA's *Recommended Practices*, "Hazards can be introduced over time as workstations and processes change, equipment or tools become worn, maintenance is neglected, or housekeeping practices decline." Therefore, in our opinion, it is important to periodically inspect safety products and equipment to ensure reliability and effectiveness.

The California Code of Regulations requires portable fire extinguishers to be inspected monthly in addition to annual maintenance checks. As seen previously in figure 10, during our jobsite inspections we found that portable fire extinguishers in vehicles generally lacked documentation of monthly inspections. This could indicate that monthly inspections were not completed and that fire extinguishers may be unreliable in an emergency.

This could indicate that monthly inspections were not completed and that fire extinguishers may be unreliable in an emergency.

In addition to inspecting vehicles at jobsites, we inspected various Department of Utilities' facilities for adequate safety and personal protective equipment. Based on these inspections, we found that while fire extinguishers generally had documentation of required annual inspections, one fire extinguisher hadn't been inspected since 2003, as seen in figure 12. Additionally, we found various products in one of the department's warehouses that were expired. We also found expired first aid kits and expired products within first aid kits at other facilities and in City vehicles. This could result in employees potentially using unreliable or ineffective products. The Department of Utilities does not have a process in place to periodically inspect all of their safety equipment to ensure compliance with regulations, as demonstrated by the lack of documented monthly inspections of portable fire extinguishers in City vehicles, or to periodically inspect products, as demonstrated by the expired first aid kits. To ensure employees are provided with reliable and effective safety equipment, we recommend the Department of Utilities establish a process to periodically inspect the department's safety equipment and related products.

Figure 12: Fire Extinguisher Last Inspected in 2003



Source: Auditor photographs.

RECOMMENDATION:

We recommend the Department of Utilities:

3. Establish a process for periodically inspecting safety equipment.

Management Can Strengthen Controls to Detect and Deter Fraudulent Reimbursement Requests for Personal Protective Equipment

As stated previously, personal protective equipment (PPE) is used to mitigate exposure to hazards that can cause serious workplace injuries and illnesses. In general, OSHA requires employers to provide their employees PPE used to comply with OSHA standards. Therefore, in our opinion, it is important for management to have processes in place to ensure the PPE provided to employees (1) meets or exceeds OSHA standards and (2) is used appropriately by the employees.

In the Department of Utilities, PPE is either purchased by the department and provided to employees or purchased by employees and reimbursed by the department. The process for receiving reimbursement and the types of PPE that can be reimbursed by the department are defined within the City's labor agreements. In general, employees are required to provide receipts of PPE purchases to receive reimbursement. The reimbursement request and receipts are reviewed and approved by a supervisor or superintendent and then submitted to the department's accounting unit for processing. Figure 13 below illustrates the PPE reimbursements allowed within the City's labor agreements.

In general, employees are required to provide receipts of PPE purchases to receive reimbursement.

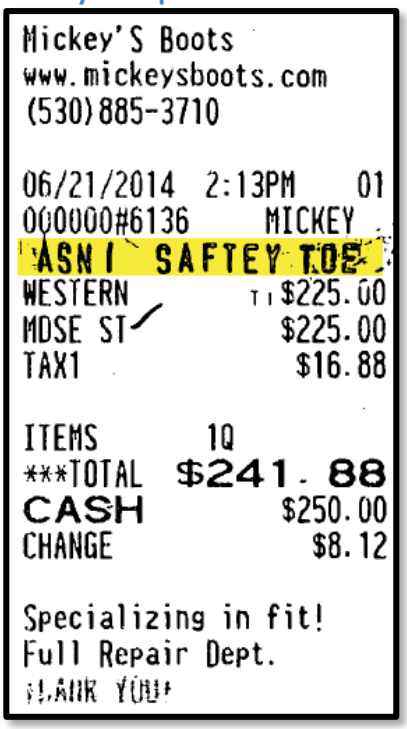
Figure 13: Personal Protective Equipment Reimbursements Allowed Per City Labor Agreements

Labor Agreement	Safety Footwear	Prescription Safety Glasses
Building and Construction Trades Council	✓	✓
Local 39 General Supervisors	✓	✓
Local 39 Miscellaneous	✓	✓
Local 39 Plant Operators	✓	✓
Local 447	✓	✓
Sacramento City Exempt Employees Association	-	-
Unrepresented Resolution	-	-
Western Conference of Engineers	✓	-

Source: Auditor generated based on the City's labor agreements.

In 2017, the Office of the City Auditor received three separate allegations through the City's Whistleblower Hotline regarding fraudulent PPE reimbursements in the Department of Utilities. To investigate these allegations, we reviewed a sample of reimbursement documentation for compliance with labor agreements and potential fraud. Based on this review, we found that some employees submitted fraudulent reimbursement requests totaling approximately $5,000 since at least 2009[5]. This included forged receipts and fake safety stamps on receipts to pass off non-safety equipment as safety equipment. Figure 14 is an example of a receipt submitted by an employee who used a fake safety stamp to be reimbursed for non-safety equipment. As seen in Figure 14, the abbreviation for the American National Standards Institute, Inc. (ANSI) and the word "safety" were misspelled on the stamp.

Figure 14: Receipt Submitted for Reimbursement with Fake Safety Stamp


Mickey'S Boots
www.mickeysboots.com
(530)885-3710

06/21/2014 2:13PM 01
000000#6136 MICKEY
ASNI SAFTEY TOE
WESTERN T1 $225.00
MDSE ST $225.00
TAX1 $16.88

ITEMS 10
***TOTAL $241.88
CASH $250.00
CHANGE $8.12

Specializing in fit!
Full Repair Dept.
THANK YOU!

Source: CARA. CARA is the City's content management interface, which allows users to access City documents.

Based on our review of reimbursement documentation, it appears that the Department of Utilities' current controls over PPE reimbursements are insufficient to detect and deter fraud. As a result, the Department of Utilities processed unnecessary reimbursements for ineligible PPE. Additionally, ineligible PPE reimbursements raise concerns that employees may be using PPE that does not meet the department's or OSHA's safety standards. Failure to use appropriate PPE increases the potential risk of employees being exposed to hazards that can cause serious injuries or illnesses.

The Human Resources Department became aware of this issue and during the most recent round of labor negotiations, negotiated for the ability to establish a more restrictive process for providing some forms of PPE to employees. However, not all applicable labor agreements were updated. In our opinion, the Human Resources Department should consider negotiating a more restrictive and thorough reimbursement or other process for providing PPE in all of the City's labor agreements to deter fraud. Additionally, to ensure compliance with departmental safety standards, we recommend the Human Resources Department work with the Department of Utilities to implement a more restrictive and thorough reimbursement process for PPE. This could include restricting the approved suppliers of PPE, requiring visual inspection of PPE for compliance, and performing periodic audits of reimbursement data.

[5] It is important to note that the City began using its current financial system in 2008; therefore, reimbursement documentation prior to 2008 was not available.

RECOMMENDATIONS:

We recommend the Human Resources Department:

4. Consider negotiating a more restrictive and thorough reimbursement or other process for providing PPE in all of the City's labor agreements.

We recommend the Department of Utilities and the Human Resources Department:

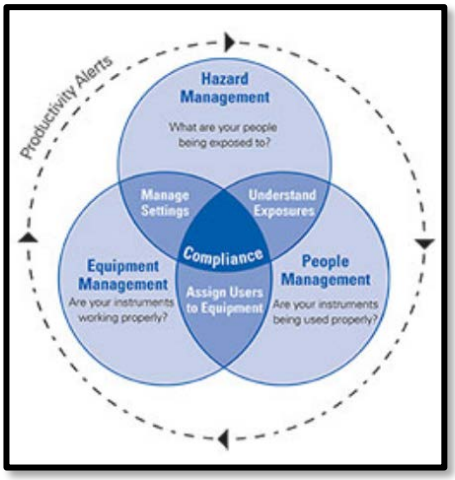
5. Implement a more restrictive and thorough reimbursement process for PPE for Department of Utilities' employees.

The Department's Gas Monitoring Program Lacks Accountability

The Department of Utilities uses gas detectors to monitor air quality to ensure the air is safe to breathe for employees performing work in certain locations. Failure to properly monitor air quality could be catastrophic and potentially lead to employee death. The Department of Utilities monitors for various gases depending on location, including by not limited to: carbon monoxide, chlorine dioxide, combustible gas, hydrogen sulfide, and oxygen.

The Department of Utilities contracts with Industrial Scientific to provide and maintain their gas detector inventory which consists of various types of gas detectors as well as docking stations used to test, calibrate, and upload data from the gas detectors to iNET Control (iNET). iNET is a gas detection management software that compiles data to help manage hazards, employees, and equipment, as seen in figure 15. However, it is unclear who within the Department of Utilities is responsible for managing the department's gas monitoring program. This lack of accountability may have led to the data accuracy errors, missing data, and employees not using gas detectors in accordance with manufacturer recommendations described below.

Figure 15: iNET Control



Source: Industrial Scientific website, http://www.indsci.com/iNet_Control/.

iNET and IntelliTrack Data Do Not Reconcile

In conjunction with iNET, the Department of Utilities uses the system IntelliTrack to track the location of their gas detectors and docking stations as well as assign individual gas detectors to employees based on serial number. Given the importance of these devices, we attempted to reconcile iNET and IntilliTrack to verify the accuracy of the data. However, as seen in the figure below, we found that iNET and IntelliTrack data did not reconcile. Interviews with staff indicate that these data inaccuracies may be due to employees'

failure to update iNET, and to employees exchanging gas detectors without updating IntelliTrack. Inaccurate data raises concerns regarding the department's ability to efficiently manage their gas detector inventory. For example, a reconciliation of gas detector data could find shortages or surpluses of gas detectors and docking stations at some locations. Where supervisors have requested additional equipment, a surplus of unused gas monitors elsewhere in the department could potentially fill those needs at no additional cost.

Figure 16: Discrepancies in Location and Count of Gas Monitoring Equipment as of November 20, 2017

Location	Gas Detectors		Docking Stations	
	iNET	IntelliTrack	iNET	IntelliTrack
Combined Wastewater Treatment Plant	21	17	4	4
Fairbairn Water Treatment Plant	21	13	2	2
North Area Corporation Yard	9	7	1	1
Sacramento River Water Treatment Plant	41	26	4	4
South Area Corporation Yard	80	96	6	4
Total	**172**	**159**	**17**	**15**

Source: Auditor generated based on iNET and IntelliTrack reports.

Use of Gas Detectors is Inconsistent with Manufacturer Directions

To ensure gas detectors are operating correctly, Industrial Scientific recommends gas detectors be bump tested[6] before each day's use and calibrated[7] monthly. Both of these tests can be performed automatically when the gas detector is docked in a docking station. We reviewed gas detector data uploaded to iNET between July 1, 2017 and September 20, 2017 to determine if employees were following manufacturer directions by bump testing and calibrating their gas detectors. Based on our review, we found that employees used gas detectors nearly 300 times without performing bump tests and more than 80 times without performing monthly calibrations, as seen in figure 17 below. This raises concerns regarding the effectiveness of these gas detectors to detect hazardous gases; failure to detect hazardous levels of gases could be fatal to employees.

Failure to detect hazardous levels of gases could be fatal to employees.

[6] Bump testing is: using a known concentration of calibration gas to test whether a gas detector is functioning correctly. During the testing period, the average time for performing a bump test was approximately 54 seconds.

[7] Calibration: is when the instrument self-adjusts so that the sensors retain their ability to correctly measure and accurately display gas concentration values. During the testing period, the average time for performing a calibration was approximately 2.5 minutes.

Figure 17: Equipment Alerts Received Between July 1, 2017 and September 30, 2017

Location	Use Without Bump Test	Use Without Calibration
Combined Wastewater Treatment Plant	42	7
Fairbairn Water Treatment Plant	21	13
North Area Corporation Yard	35	7
Sacramento River Water Treatment Plant	25	16
South Area Corporation Yard	173	41
Total	**296**	**84**

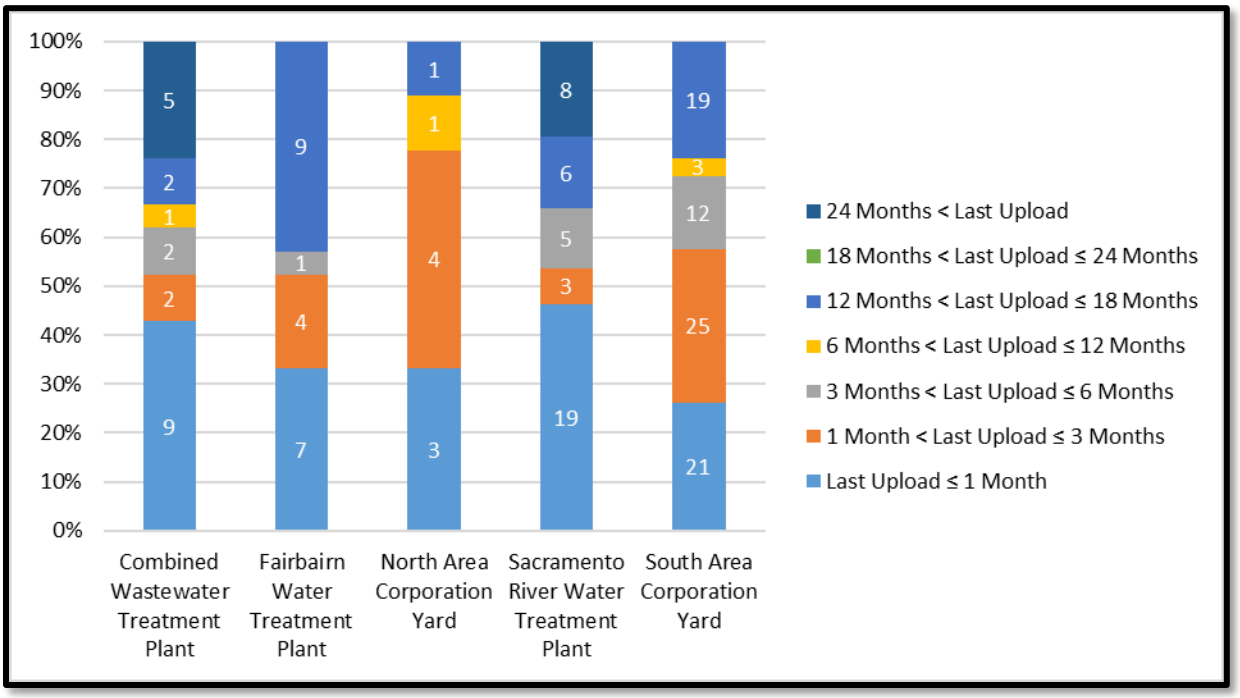
Source: Auditor generated based on iNET reports.

Gas Detector Data is Not Uploaded Consistently

Data—such as bump test results, calibration results, and gas alarm histories—is uploaded from the gas detectors to iNET each time a gas detector is docked into one of the department's docking stations. We reviewed gas detector data in iNET to determine the frequency data is uploaded. As seen in figure 18 below, it appears that the Department of Utilities may have 50 gas detectors that have not uploaded data to iNET in more than a year. While the department has identified four of these gas detectors being from a previous lease with Industrial Scientific and therefore should be removed from iNET, a reconciliation should be performed to confirm that this equipment is no longer in inventory. Excluding gas detectors identified as being from the previous lease, the department has 46 gas detectors under the current lease that have not been uploaded to iNET in more than a year. Missing gas detector data hinders the department's ability to effectively manage their gas monitoring equipment. In addition, the department is limited in its ability to correctly identify trends in gas types and levels present at various locations that could potentially create hazardous work environments.

It appears that the Department of Utilities may have up to 50 gas detectors that have not uploaded data to iNET in more than a year.

Figure 18: Last Upload of Gas Detector Data as of November 20, 2017



Source: Auditor generated based on iNET reports.

Failure to Monitor Gas Levels Could Be Catastrophic

Although the Department of Utilities has not had any fatalities involving inhospitable air quality, failure to properly monitor gas levels can be catastrophic. For example, on July 7, 2017 three employees of Usa Fanter Corp., LTD[8] were asphyxiated by hydrogen sulfide gas in the Northern Mariana Islands; this is one of the gases the Department of Utilities monitors for. As a result of this incident, OSHA conducted an inspection, summarized below:

> "Employee #1 was attempting to dislodge a 24[-]inch rubber plug from a 2[-]foot diameter sewer pipe located inside a 24[-]foot deep wet well. The workers were outside the well pulling on a ¼-inch nylon rope that was attached to the 24-inch diameter plug. The plug was lodged inside a T-shaped PVC fitting from the force of the waste water emptying into the well. Without conducting any atmospheric testing of the work space, Employee #1 climbed down the ladder with a crowbar to dislodge the deflated 24[-]inch diameter rubber plug, which was about 8 feet below the top of the well. He had difficulty releasing the plug with the crowbar and started to make his way up the ladder. He lost consciousness when he was about 2 feet from the top of the well and

[8] Usa Fanter Corp., LTD is a company that performs water line, sewer line, and related structures construction.

> fell into the 24[-]foot deep well. Employee #2 descended down the ladder to provide emergency rescue, but lost consciousness and went underwater. The waste water level was about 3 feet deep at this point. Employee #3 climbed down the ladder to provide emergency rescue, but lost consciousness as well. All three workers were asphyxiated by hydrogen sulfide (H2S) gas."

As noted in OSHA's investigation summary, the Usa Fanter Corp., LTD employees did not conduct any atmospheric testing of the work space prior to performing work. The work being performed during this incident is similar to potential work performed by the Department of Utilities. The department's lack of reconciliation of gas detector data, use of gas detectors inconsistent with manufacturer recommendations, and inconsistent uploading of gas detector data increases the risk of a similar catastrophic incident occurring in the Department of Utilities. To mitigate this risk, we recommend the Department of Utilities formally establish who has responsibility over the department's gas monitoring program, develop departmental policies and procedures for the administration and use of gas monitoring equipment, and perform periodic audits of gas monitor data.

The department's lack of reconciliation of gas detector data, use of gas detectors inconsistent with manufacturer recommendations, and inconsistent uploading of gas detector data increases the risk of a similar catastrophic incident occurring in the Department of Utilities.

RECOMMENDATIONS:

We recommend the Department of Utilities:

6. Formally establish who has responsibility over the department's gas monitoring program.
7. Develop departmental policies and procedures for administration and use of gas monitoring equipment.
8. Perform periodic audits of gas monitor data to ensure employees use gas monitors in accordance with departmental policies.

Finding 3: The Department of Utilities Can Strengthen Compliance with Vehicle Safety Requirements

The *City Employee's Transportation Policy and Procedures* states that employees are expected to operate City vehicles "in a manner consistent with all safety and legal requirements of the City and State." This can include obeying traffic laws, using seat belts, and performing pre- and post-trip vehicle inspections. While the Department of Utilities has decreased their collision frequency rate [9] and the number of liability claims filed over the past five years, our review of the department's vehicle safety practices found that compliance with vehicle safety requirements can be strengthened. Specifically, we found:

- The department's collision frequency rate and number of liability claims filed have decreased;
- Thirty-seven percent of the department's vehicle fleet is not tracked with a global positioning system (GPS);
- Compliance with State required vehicle pre- and post-trip inspections can be improved;
- Compliance with speed limits could decrease the severity of vehicle collisions; and
- The City's *Wireless Telephone Use While Driving* policy is outdated.

According to the City of Sacramento Approved Budget Fiscal Year (FY) 2017/18, "One of the most significant risks of injury to Sacramento citizens and employees is vehicle accidents."

According to the *City of Sacramento Approved Budget Fiscal Year (FY) 2017/18*, "One of the most significant risks of injury to Sacramento citizens and employees is vehicle accidents." Therefore, it is important to abide by the vehicle safety requirements set by the City, State, and Federal government. To strengthen compliance with these requirements, we recommend the Department of Utilities periodically review vehicle data and develop a plan to promote compliance with traffic laws.

The Department's Collision Frequency Rate and Number of Liability Claims Filed Have Decreased

The City's Risk Management Division tracks City vehicle collision statistics such as the number of vehicle collisions, collision frequency rates, and liability claims filed. Figure 19 below illustrates the Department of Utilities' vehicle collision incidents over the past five fiscal years. As seen in the figure, the Department of Utilities' collision frequency rate and the liability claims filed have both decreased.

[9] The collision frequency rate is calculated as the number of chargeable collisions divided by million miles driven. A chargeable collision is one in which the City employee is determined to be at fault. Chargeable collisions which resulted in less than $750 in property damage to City assets are excluded.

Figure 19: Department of Utilities Vehicle Collision Incidents

Fiscal Year	Miles Driven	Total Collisions	Chargeable Collisions*	Collision Frequency Rate	Liability Claims Filed
2016-17	2,100,988	40	17	8.1	4
2015-16	2,045,595	42	21	10.3	12
2014-15	2,079,853	37	18	8.7	7
2013-14	1,738,232	37	14	9.8	12
2012-13	1,939,926	51	21	10.8	24

Source: Auditor generated based on reports provided by the City's Loss Prevention Unit.
*A chargeable collision is one in which the City employee is determined to be at fault. Chargeable collisions which resulted in less than $750 in property damage to City assets are excluded.
Note: The numbers in this table have not been audited.

The City of Sacramento is a Vision Zero city. Vision Zero is a traffic safety philosophy that rejects the notion that traffic crashes are simply "accidents," but instead preventable incidents that can and must be systematically addressed. In January 2017, Sacramento City Council adopted the following goal: "The City of Sacramento will work collaboratively in a data-driven effort to eliminate traffic fatalities and serious injuries by 2027." While the Department of Utilities' collision frequency rate and the number of liability claims filed have decreased over the last five fiscal years, improvement can still be made in reducing the risk of collisions caused by City employees. In alignment with the City's Vision Zero goal, the following sections in this finding identify areas of risk and make recommendations aimed at strengthening the Department of Utilities' compliance with vehicle safety requirements.

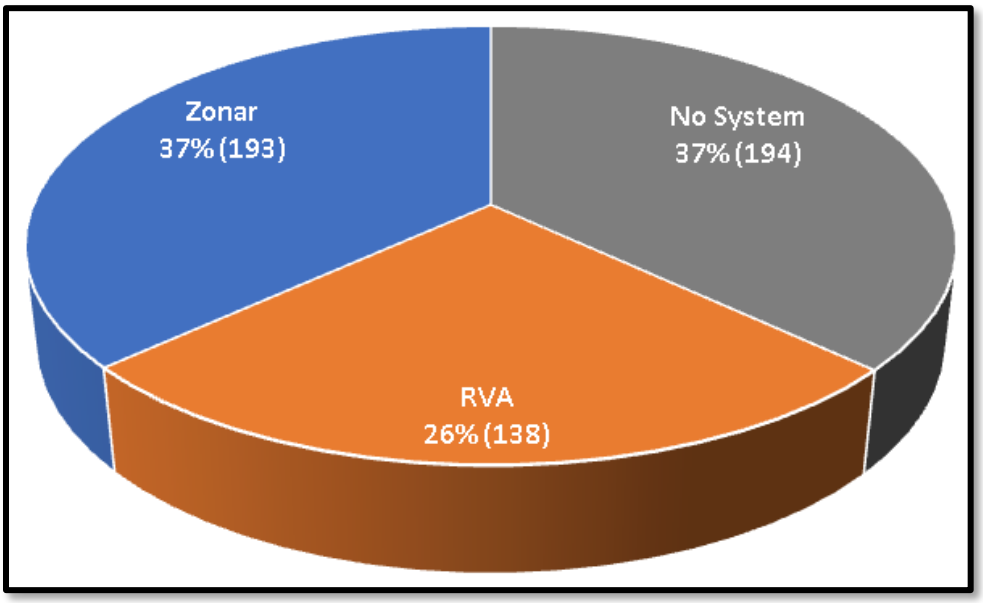
Vision Zero is a traffic safety philosophy that rejects the notion that traffic crashes are simply "accidents," but instead preventable incidents that can and must be systemically addressed.

Thirty-Seven Percent of the Department's Vehicle Fleet is Not Tracked with a Global Positioning System (GPS)

As noted in the Background, some employees in the Department of Utilities spend the majority of their working hours outside of City property. These field employees travel in City vehicles throughout the City to perform tasks such as inspecting City pipes for leaks and fixing water main breaks. The Department of Utilities' vehicle fleet consists of over 500 vehicles; these include various sized trucks, SUVs, trailers, and other miscellaneous vehicles. Each year, the Department of Utilities' vehicle fleet travels approximately two million miles.

As stated previously, the City of Sacramento uses two global positioning systems (GPS) to track its vehicle fleet, Zonar and RVA. However, not all City vehicles are equipped with GPS tracking devices. Based on our review of the City's GPS data, it appears that approximately 37 percent of vehicles in the Department of Utilities are not tracked in either Zonar or RVA. The following figure illustrates how many vehicles are tracked in each system.

Figure 20: Department of Utilities Vehicle Tracking



Source: Auditor generated based on report provided by the City's Fleet Management Division.

While the Department of Utilities is not required to have GPS in all of their vehicles, management is limited in its ability to collect and analyze data related to vehicle collisions, substantiate public complaints, improve departmental efficiencies, and confirm employee work performance issues when vehicles are not equipped with tracking devices. Although installing GPS devices in the remainder of the Department of Utilities' vehicle fleet would cost the department additional funds, as seen in the figure to the right, in our opinion, it is important for management to have complete data in order to make better management decisions. To enhance evaluation and accountability, we recommend the department consider installing GPS tracking systems in all of the department's vehicles.

Figure 21: Approximate Cost of GPS

	Zonar*	RVA
Unit Cost**	$522	$210
Installation Cost**	$464	$116
Monthly Service Cost	$24	$16

Source: Auditor generated based on information provided by the City's Fleet Management Division.
*The cost for Zonar varies depending on equipment. These costs are based on the V3 unit, which is used for heavy equipment.
**Denotes one-time costs.

RECOMMENDATION:

We recommend the Department of Utilities:

9. Consider installing GPS tracking systems in all of the department's vehicles.

Compliance with State Required Vehicle Pre- and Post-Trip Inspections Can Be Improved

The *City Employee's Transportation Policy and Procedures* states, "The driver of a motor vehicle used on City business must verify that the vehicle is in good operating condition before embarking on a trip." This policy recognizes Title 13 of the California Code of Regulations which requires drivers to document daily vehicle inspection reports and correct safety defects prior to the vehicle being driven on the highway. The *City Employee's Transportation Policy and Procedures* further requires drivers operating vehicles with gross vehicle weight ratings of 10,501 pounds and above (vehicles larger than full size pick-up trucks) to perform daily pre-trip and post-trip.

The Department of Utilities uses Zonar to perform electronic, paperless vehicle inspections and record retention in a manner that meets California Highway Patrol requirements for commercial vehicle safety. Zonar devices have an integrated, electronic verified pre-trip and post-trip vehicle inspection feature which provides Electronic Vehicle Inspection Reports (EVIR) to aid City staff in maintaining compliance with State-mandated daily vehicle inspections. Any mechanical concerns found during daily inspections generate a work request with the appropriate fleet shop.

To verify compliance with City policy, we selected a random sample of 20 Department of Utilities' vehicles with gross vehicle weight ratings of 10,501 pounds and above and determined whether daily pre- and post-trip inspections were being performed during a one-month period. Based on this testing sample, it appears that approximately 46 percent of required inspections were completed[10]; therefore, 54 percent of the required inspections were not completed. Additionally, it appears that only 24 percent of trips had completed both pre- and post-trip inspections as required by City policy. This indicates that the current level of supervisor oversight may be insufficient. Failure to perform pre- and post-trip vehicle inspections increases the risk of employees operating vehicles that are unsafe. To ensure that the vehicles operated by employees are safe and to improve compliance with City policy and state law, we recommend the Department of Utilities establish a process to periodically reconcile vehicle data with pre- and post-trip vehicle inspection data. Additionally, we recommend the department hold employees accountable when pre- and post-trip inspections are not completed.

It appears that only 24 percent of trips had completed both pre- and post-trip inspections as required by City policy.

[10] For the purposes of this test, each day a vehicle was driven was considered to be one trip; therefore, two inspections are required for each day the vehicle is driven.

RECOMMENDATION:

We recommend the Department of Utilities:

10. Establish a process to periodically reconcile vehicle data with pre- and post-trip vehicle inspection data and hold employees accountable when pre- and post-trip inspections are not completed.

Compliance with Speed Limits Could Decrease the Severity of Vehicle Collisions

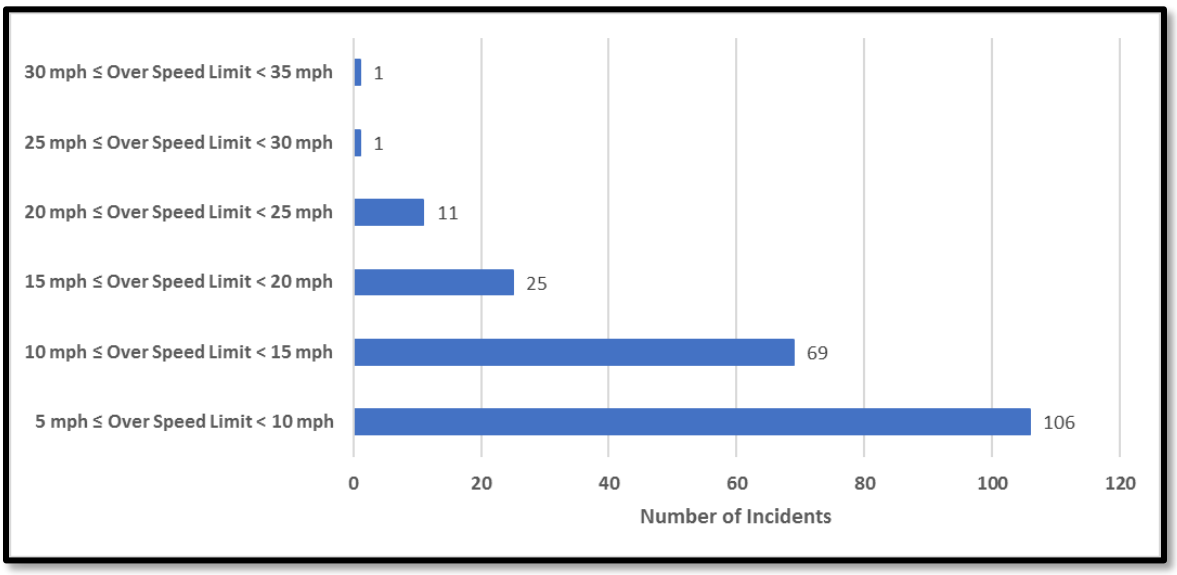
According to the United States Department of Transportation Federal Highway Administration (FHWA), "Speeding, commonly defined as exceeding the posted speed limit or driving too fast for conditions, is a primary crash causation factor across the globe." Additionally, the FHWA states that "the laws of physics make it very clear that speed and crash severity are inextricably linked (i.e., severity increases geometrically as speed increases) . . ." In our opinion, it is important for employees to comply with posted speed limits to decrease crash severity in the event of a vehicle collision.

To assess compliance with posted speed limits, we reviewed vehicle data in Zonar and RVA, the City's two GPS systems. Based on our review of vehicle data, employees may not be complying with vehicle speed limits. We found over 200 incidents during a one-week period in January 2017, where Department of Utilities' Zonar vehicles exceeded posted speed limits[11] by at least five miles per hour (mph). As seen in figure 22 below, one Department of Utilities' vehicle may have exceeded the posted speed limit by 30 mph or more.

We found over 200 incidents during a one-week period in January 2017, where Department of Utilities' Zonar vehicles exceeded posted speed limits by at least five miles per hour (mph).

[11] Zonar makes the following statement regarding the accuracy of posted speed limits in their system: "Zonar obtains posted speed data by reverse geocoding the accurate GPS position data with 3rd party provided speed/location map data. While the posted data is generally reliable, incomplete speed/location databases, and the ability of government agencies to change posted speed limits at their discretion, sometimes lead to odd results."

Figure 22: Department of Utilities Zonar Vehicle Speed Violations Between January 22, 2017 and January 28, 2017



Source: Auditor generated based on data from Zonar.
Note: Vehicles that went over the speed limit multiple times in a single day were counted once, using the highest amount over the speed limit for that day.

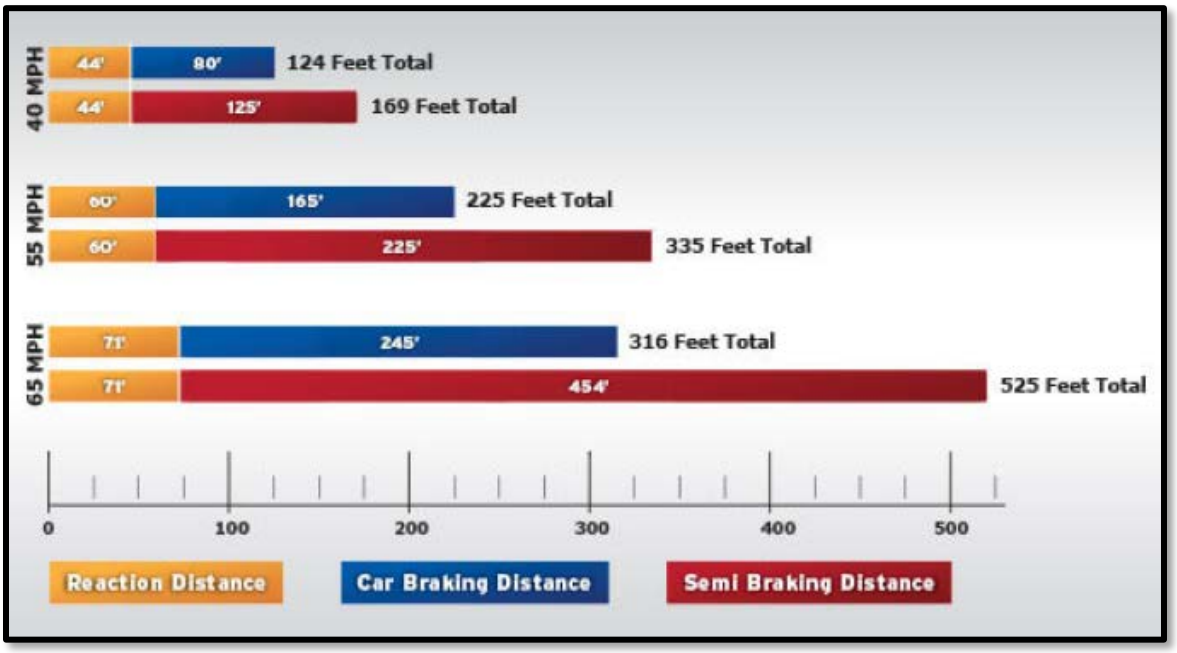
According to the California Department of Motor Vehicles, "High speeds greatly increase the severity of accidents and stopping distances." Increasing vehicle speed also increases the impact, or striking power, of the vehicle. For example, doubling the speed of a vehicle from 20 to 40 mph increases the vehicle's potential impact by four times. Additionally, the braking distance for the vehicle is also four times longer. Increasing the vehicle's speed to 80 mph increases the potential impact and braking distance to 16 times greater than vehicles traveling at 20 mph.

Increasing vehicle speed also increases the impact, or striking power, of the vehicle.

The stopping time and distance for trucks is much greater than that of smaller vehicles. According to the Federal Motor Carrier Safety Administration, "A fully loaded truck traveling under good conditions at highway speeds requires a distance of almost two football fields to stop[12]." Additionally, the stopping distance for commercial vehicles increases when the vehicle has a heavy load, or is driving in rain, snow, or on icy roads. Figure 23 below illustrates the stopping distances for vehicles traveling at varying speeds.

[12] It should be noted that this stopping distance does not necessarily correspond to Department of Utilities' vehicles.

Figure 23: Vehicle Stopping Distances



Source: Utah Department of Transportation.

While the Department of Utilities has the ability to review vehicle data in Zonar and RVA, some of the City's labor agreements place limitations on how this data can be used. For example, some of the City's labor agreements state that GPS data "shall not be used by the City as the only factor in gathering data for the purposes of discipline." In our opinion, these limitations may have contributed to the non-compliance with posted speed limits. To decrease the risk and severity of vehicle collisions, we recommend the Department of Utilities develop a plan to promote compliance with traffic laws.

RECOMMENDATION:

We recommend the Department of Utilities:

11. Develop a plan to promote compliance with traffic laws.

The City's *Wireless Telephone Use While Driving* Policy is Outdated

The California Vehicle Code regulates the use of mobile devices while operating a vehicle, stating, "A person shall not drive a motor vehicle while holding and operating a handheld wireless telephone or an electronic wireless communications device unless the wireless telephone or electronic wireless communications device is specifically designed and configured to allow voice-operated and hands-free operation, and it is used in that manner while driving." Specifically,

> "A handheld wireless telephone or electronic wireless communications device may be operated in a manner requiring the use of the driver's hand while the driver is operating the vehicle only if both of the following conditions are satisfied: (1) The handheld wireless telephone or electronic wireless communications device is mounted on a vehicle's windshield in the same manner a portable Global Positioning System (GPS) is mounted . . .or is mounted on or affixed to a vehicle's dashboard or center console in a manner that does not hinder the driver's view of the road. (2) The driver's hand is used to activate or deactivate a feature or function of the handheld wireless telephone or wireless communications device with the motion of a single swipe or tap of the driver's finger."

In addition to the California Vehicle Code, the City of Sacramento's *Wireless Telephone Use While Driving* policy regulates the use of mobile devices by City employees while operating a vehicle on City business. However, this policy has not been updated since 2009 and does not encompass updates to the California Vehicle Code such as requirements for mounting mobile devices or the "one swipe" rule. It should be noted that in 2017, the City required some City employees to acknowledge a memorandum explaining changes to the California Vehicle Code made by Assembly Bill (AB) 1785. However, the City's *Wireless Telephone Use While Driving* policy was not updated to reflect these changes or changes made by AB 1222, which became effective in January 2018.

According to the National Highway Traffic Safety Administration (NHTSA), "Any non-driving activity you engage in is a potential distraction and increases your risk of crashing." NHTSA defines distracted driving as "any activity that diverts attention from driving, including talking or texting on your phone, eating and drinking, talking to people in your vehicle, fiddling with the stereo, entertainment or navigation system—anything that takes your attention away from the task of safe driving." We reviewed the Department of Utilities' training records related to distracted driving. Based on our review, it appears that at least 48 employees have not yet acknowledged the memorandum regarding AB 1785. This indicates that these employees may be unaware of the updated regulations in the California Vehicle Code regarding the use of mobile devices while operating a vehicle.

We observed one Department of Utilities' employee drive a City vehicle while using the navigation features on their mobile device in excess of the one swipe rule and without the device being mounted.

During the course of the audit, we observed one Department of Utilities' employee drive a City vehicle while using the navigation features on their mobile device in excess of the one swipe rule and without the device being mounted. Not only does this violate the California Vehicle Code, it also increases the risk of a vehicle collision. We reviewed the employee's training

records related to driving and found that this employee had acknowledged the AB 1785 memorandum and had completed three other driving and driving safety related trainings. However, it appears this training was insufficient to ensure the employee operated their vehicle in a safe manner.

To ensure that all employees are aware of the updated California Vehicle Code requirements regarding the use of mobile devices while operating a vehicle, we recommend the Human Resources Department update the City's *Wireless Telephone Use While Driving* policy and require employees to acknowledge the updated policy. Additionally, as some employees in the Department of Utilities travel throughout the City to various jobsites, in our opinion, these employees could benefit from additional driver safety training. Therefore, we recommend the department provide additional driver safety training to these employees.

RECOMMENDATIONS:

We recommend the Human Resources Department:

12. Update the City's Wireless Telephone Use While Driving policy and require employees to acknowledge the policy.

We recommend the Department of Utilities:

13. Provide additional driver safety training to employees who frequently travel for City business.

Finding 4: The Department of Utilities Can Enhance Compliance with City Safety Policies, State Laws, and Federal Regulations

As stated previously, OSHA and Cal/OSHA are the regulating bodies of health and safety in the workplace for organizations located in California. Additionally, the Department of Utilities and its employees must abide by City safety policies and State laws. We reviewed Department of Utilities' health and safety documentation to assess compliance with various City safety policies, state laws, and federal regulations. Based on this review, we found that compliance with health and safety requirements can be enhanced. Specifically, we found:

- The department lacks written procedures for the control of hazardous energy (lockout/tagout);
- The department does not have a mechanism to ensure compliance with confined space requirements;
- The department's fall protection controls appear to be haphazard; and
- Cal/OSHA required tailgate safety meetings did not occur in 93 percent of our sample.

While the Department of Utilities has set expectations for compliance, more formal internal controls can help ensure compliance goals are met.

Internal controls promote efficiency, reduce risk of loss, and help to ensure compliance with laws and regulations. While the Department of Utilities has set expectations for compliance, more formal internal controls can help ensure compliance goals are met. We recommend the Department of Utilities develop more formal processes for documenting and reviewing health and safety practices to enhance compliance with City safety policies, state laws, and federal regulations.

The Department Lacks Written Procedures for the Control of Hazardous Energy (Lockout/Tagout)

The control of hazardous energy, or lockout/tagout, is the practice of disabling machinery or equipment to prevent the release of hazardous energy while employees perform service and maintenance activities. Figure 24 illustrates examples of lockout/tagout signage. According to OSHA, "Employees servicing or maintaining machines or equipment may be exposed to serious physical harm or death if hazardous energy is not properly controlled." OSHA lockout/tagout standards establish requirements that employers must follow when employees are exposed to hazardous energy while servicing and maintaining machinery and equipment. These standards include, but are not limited to, implementing an energy control program, documenting control

Figure 24: Lockout/Tagout Signage

Source: Smartdraw.

procedures, annual energy control procedure inspections, and providing effective training for employees covered by the standard. To determine compliance with OSHA's lockout/tagout standards, we reviewed documentation for the control of hazardous energy. Based on this review, employees appear to lockout and tagout machinery and equipment based on past practices, although there are no documented written control procedures for employees to follow.

Based on this review, employees appear to lockout and tagout machinery and equipment based on past practices, although there are no documented written control procedures for employees to follow.

The City's Risk Management Division identified this issue in their FY 2017-18 risk initiatives for the Department of Utilities. Specifically, they noted that one goal for the Risk Management Division is to assist the Department of Utilities with the development of hazardous energy control procedures. The department has been working towards developing a request for proposals to perform an electrical safety audit. While this should help the department in developing some of the required written control procedures, the scope of services for the contract is not all-encompassing. Therefore, we recommend the Department of Utilities work with the Risk Management Division to establish written procedures for the control of hazardous energy for machinery and equipment that are not included in the scope of the department's electrical safety audit.

RECOMMENDATION:

We recommend the Department of Utilities and Risk Management Division:

14. Establish written procedures for the control of hazardous energy (lockout/tagout).

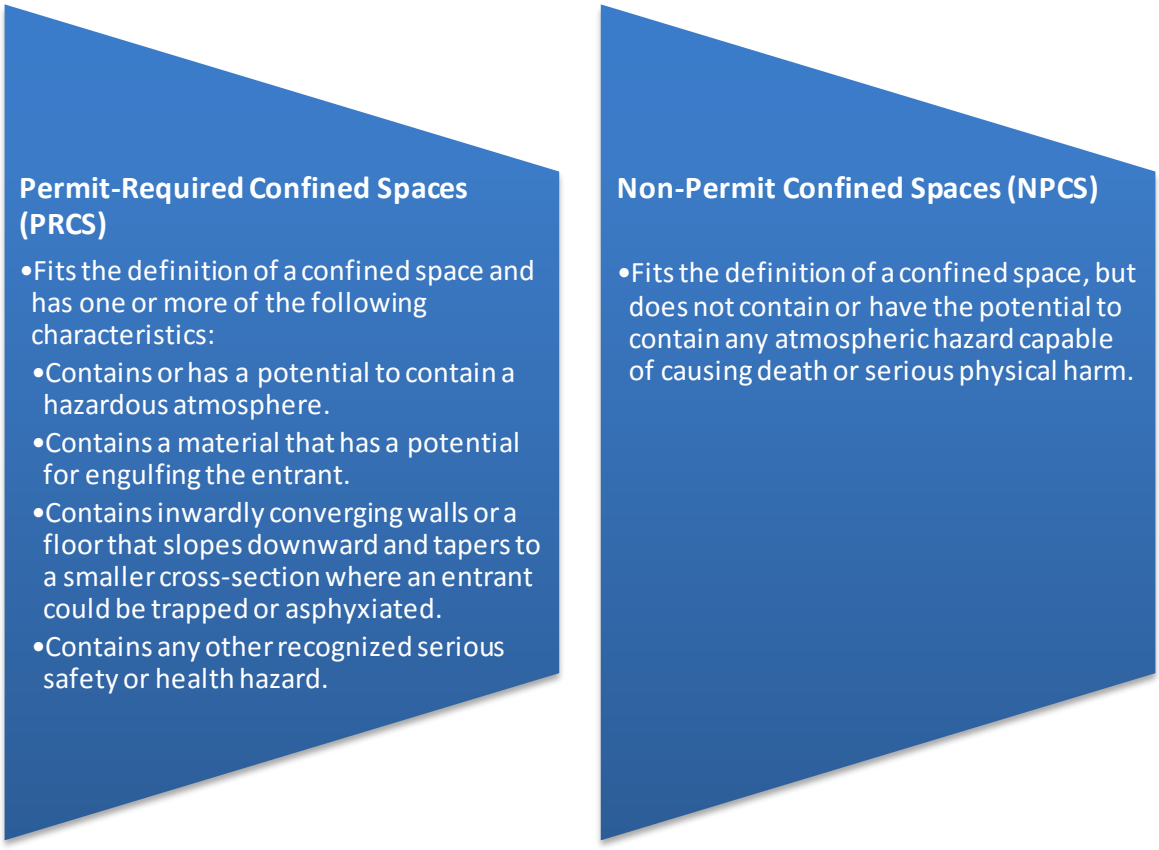
The Department Does Not Have a Mechanism to Ensure Compliance with Confined Space Requirements

Some workplaces are considered "confined spaces" because although they are large enough for workers to enter and perform work, they were not necessarily designed for continuous use by workers. Confined spaces also have limitations or restrictions for entry and exit into the space. Examples of confined spaces include, but are not limited to: tanks, silos, manholes, ductwork, and pipelines. Figure 25 provides an example of one of the entry points for one of the confined spaces at the Department of Utilities' Sacramento River Water Treatment Plant. There are two types of confined spaces: permit-required confined spaces (PRCS) and non-permit confined spaces (NPCS). Figure 26 below illustrates the differences between PRCS and NPCS.

Figure 25: Example Entry Point for a Confined Space

Source: Auditor photographs.

Figure 26: Permit-Required Confined Spaces Compared to Non-Permit Confined Spaces



Source: Auditor generated based on Cal/OSHA's 2012 *Confined Space Guide*.

Confined spaces can be hazardous to employees. For example, atmospheric hazards—such as gasoline tank vapors—combined with limited ventilation can cause asphyxiation or explosions. Therefore, it is important for employees to follow good confined space entry practices. For entry into either type of confined space, the City of Sacramento's IIPP requires employees to complete a form that documents their verification that the confined space is safe for entry. While it appears employees are completing required forms, the Department of Utilities does not currently have processes in place to ensure employees complete a form *every* time they enter a confined space.

For example, jobsites are not flagged in the Department of Utilities' work order system as being confined spaces that require special procedures. While an employee may have institutional knowledge that a jobsite is a confined space and requires confined space procedures, the department's work order system uses a different naming convention than the department's confined space inventory list. Therefore, it may be unclear to employees or management that confined space procedures should be followed for a particular work order when

This lack of information increases the risk of employees failing to follow the appropriate confined space procedures…which increases the risk of employees being exposed to atmospheric hazards that could potentially be fatal.

jobsites appear to be harmless. This lack of information increases the risk of employees failing to follow the appropriate confined space procedures, including completing required forms to verify the confined space is safe for entry, which increases the risk of employees being exposed to atmospheric hazards that could potentially be fatal.

According to Cal/OSHA, "A confined space often appears to be harmless; no danger signs are apparent and the space may have been entered on prior occasions without incident. However, a worker cannot assume that conditions have not changed and that the space is safe for entry each time." Therefore, in our opinion, it is important for employees to adhere to the City's IIPP and complete required forms every time they enter a confined space. We recommend the Department of Utilities develop a process, such as adding confined space procedures directly to work orders, to ensure employees adhere to the City's IIPP and complete required forms for entry into confined spaces.

RECOMMENDATION:

We recommend the Department of Utilities:

15. Develop a process to ensure employees complete required forms for entry into confined spaces. Consider adding confined space procedures directly to work orders.

The Department's Fall Protection Controls Appear to Be Haphazard

In recent years, fall protection has occupied the number one slot on OSHA's Top 10 Most Frequently Cited Standards. According to OSHA, "Falls from heights and on the same level (a working surface) are among the leading causes of serious work-related injuries and deaths." Therefore, OSHA requires employers to implement fall protection controls to protect workers.

The Department of Utilities has many workplaces where falls from heights or working surfaces are a concern. There are various methods the department can use to protect employees from falls, including but not limited to: guardrail systems, safety net systems, personal fall protection systems, and appropriate training. While the Department of Utilities has implemented fall protection controls at their facilities, it appears that the implementation may not have been comprehensive and some workplaces may not be in compliance with OSHA regulations. Figure 27 below provides examples of where the Department of Utilities' fall protection is lacking as well as where appropriate fall protection has been installed.

While the Department of Utilities has implemented fall protection controls at their facilities, it appears that the implementation may not have been comprehensive and some workplaces may not be in compliance with OSHA regulations.

Figure 27: Examples of Haphazard Fall Protection

Source: Auditor and Risk Management staff photographs.

Non-compliance with OSHA fall protection requirements increases the risk of injury to employees. For example, in January 2018, a Department of Utilities' employee fell into an approximately eight-feet-deep pit at Gateway Reservoir that was non-compliant with OSHA fall protection requirements. As seen in figure 28, the pit was not surrounded by railing or wire rope and the fixed ladder used to access the space does not extend at least three feet above the plane of the pit[13]. The employee sustained several deep lacerations, contusions, and strains to their lower extremities that required medical attention.

Figure 28: Pit at Gateway Reservoir

Source: Photograph provided by Risk Management staff.

The City's Risk Management Division identified fall protection concerns within the Department of Utilities in their FY 2017-18 risk initiatives. Specifically, they noted that one goal for the Risk Management Division is to assist the Department of Utilities in addressing the department's fall protection concerns by prioritizing needs based on hazard, location, and

[13] It should be noted that there are several locations in the City that are similarly configured, as well as other pits and wells that should be addressed.

frequency. According to OSHA, "Whether conducting a hazard assessment or developing a comprehensive fall protection plan, thinking about fall hazards before the work begins will help the employer to manage fall hazards and focus attention on prevention efforts." We recommend the Department of Utilities work with the Risk Management Division to develop a comprehensive implementation plan to address the Department of Utilities' fall protection concerns.

RECOMMENDATION:

We recommend the Department of Utilities and Risk Management Division:

16. Develop a comprehensive implementation plan to address the Department of Utilities' fall protection concerns.

Cal/OSHA Required Tailgate Safety Meetings Did Not Occur in 93 Percent of Our Sample

Tailgate safety meetings are brief safety meetings that can be used to address issues at a jobsite or discuss general work practices, machinery, tools, equipment, materials, attitudes, and other items that may cause or contribute to workplace accidents or illnesses. According to Cal/OSHA, tailgate safety meetings "are proven methods of preventing accidents, illnesses and on-the-job injuries" and "help employees to recognize and eliminate jobsite hazards." Title 8 of the California Code of Regulations requires supervisory employees in the Department of Utilities' field crews to conduct tailgate safety meetings at least every 10 working days to emphasize safety. However, when we reviewed a six-week sample of the department's training documents, we found that 93 percent of required tailgate safety meetings did not occur.

However, when we reviewed a six-week sample of the department's training documents, we found that 93 percent of required tailgate safety meetings did not occur.

Failure to hold required tailgate safety meetings increases the risk of accidents, illnesses, and on-the-job injuries. In addition, the City could potentially be assessed penalties from Cal/OSHA for non-compliance with the California Code of Regulations. Based on this review, it appears that the Department of Utilities lacks management oversight of tailgate safety meetings. After bringing this issue to the department's attention, the department began working with their assigned Environmental Health and Safety Specialists to update templates for documenting tailgate safety meetings. We recommend the Department of Utilities develop a process to review tailgate safety meeting documentation periodically to ensure meetings occur.

RECOMMENDATION:

We recommend the Department of Utilities:

17. Develop a process to review tailgate safety meeting documentation periodically.

Finding 5: The Department of Utilities Should Implement Health and Safety Best Practices to Reduce Risks and Improve Accountability

Health and safety best practices emphasize a proactive approach to managing workplace health and safety. Identifying and mitigating hazards before an incident occurs can avoid both the direct and indirect costs of worker injuries and illnesses as well as promote a positive work environment. We reviewed the Department of Utilities' health and safety practices and found that implementing health and safety best practices could help the department identify and mitigate hazards before incidents occur. Specifically, we found:

- The department could benefit from conducting job hazard analyses and the application of the hierarchy of controls;
- Incident investigations could better align with best practices;
- Formalizing implementation plans can enhance accountability; and
- A management of change process could help minimize risks.

Identifying and mitigating hazards before an incident occurs can avoid both the direct and indirect costs of worker injuries and illnesses as well as promote a positive work environment.

Although the City's Risk Management Division provides consultation and support to City departments on workplace health and safety issues, each department is responsible for implementing the City's IIPP in their own operations. Essentially, each department must administer their own health and safety program to comply with the City's IIPP and other laws and regulations. Although the Department of Utilities is not required to adhere to health and safety best practices, we recommend the department implement health and safety best practices to reduce risks and improve accountability.

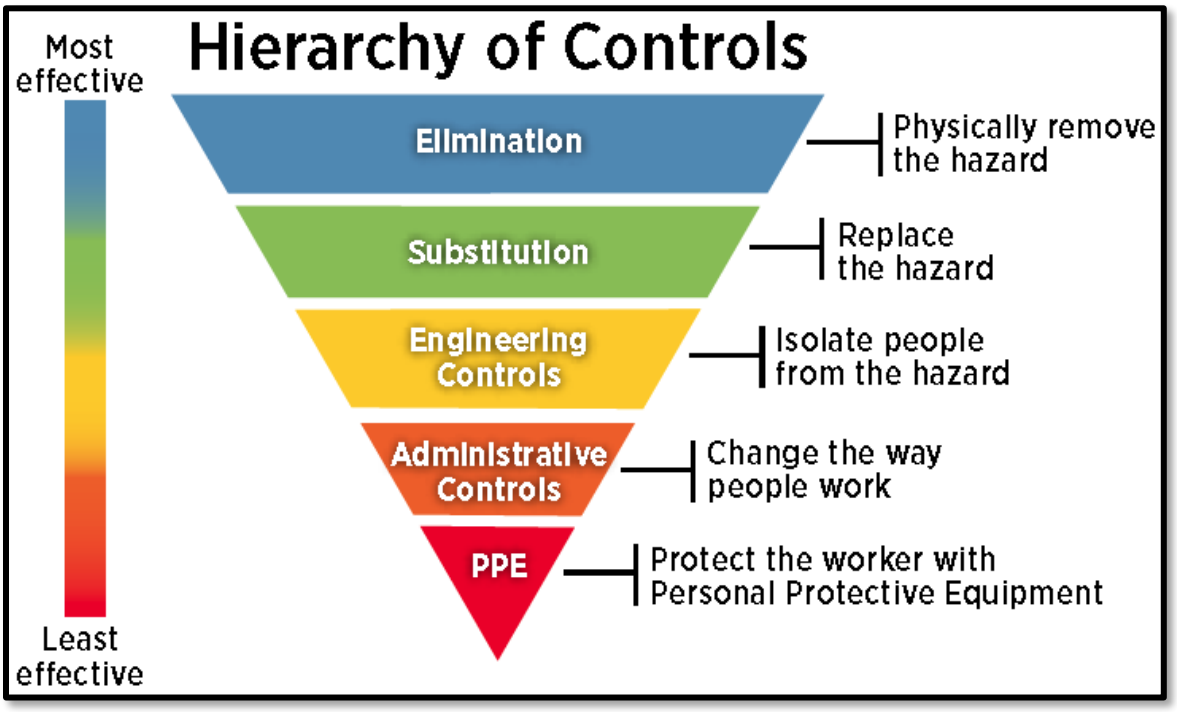
The Department Could Benefit from Conducting Job Hazard Analyses and the Application of the Hierarchy of Controls

According to OSHA's *Recommended Practices,* job hazard analysis (JHA), or job safety analysis, is "a technique that focuses on job tasks as a way to identify hazards before they occur. It focuses on the relationships among the worker, the task, the tools, and the work environment." While the department may have conducted JHAs in the past, the department could not provide any documentation for current analyses. Although the Department of Utilities is not required to conduct JHAs, these analyses could help the department identify additional controls to mitigate some of the issues identified in this report, such as employees failing to use appropriate safety and personal protective equipment (PPE) to perform their job duties.

When determining feasible and appropriate methods for health and safety hazard elimination or controls, an organization should consider: the nature and

extent of the risks being controlled; the degree of risk reduction desired; the requirements of applicable local, federal, and state statutes, standards and regulations; recognized best practices in industry; available technology; cost-effectiveness; and internal organization standards. OSHA's *Recommended Practices* state that "To effectively control and prevent hazards, employers should . . . identify and evaluate options for controlling hazards, using a 'hierarchy of controls.'" The hierarchy of controls, as seen in the figure below, lists six different types of health and safety controls and ranks them from most effective to least effective in terms of reducing or eliminating health and safety hazards. For example, a worker in a confined space with poor air quality would be better protected with ventilation (engineering controls) that improves the air quality than by using respiratory protection (PPE).

Figure 29: Hierarchy of Health and Safety Controls



Source: National Institute for Occupational Safety and Health.

Additionally, it is common to combine multiple types of controls to achieve the organization's accepted level of risk; this is often the most effective method to mitigate risks. For example, if ventilation alone could not sufficiently improve the air quality in a confined space, the employee could supplement the engineering control with additional PPE, such as respiratory protection.

We recommend the Department of Utilities conduct current job hazard analyses to identify hazards and more clearly define what controls the department will

use to mitigate the health and safety hazards identified. Additionally, we recommend the department apply the concept of the hierarchy of health and safety controls during this process to achieve the department's accepted level of risk. Upon discussion of these recommendations with the Department of Utilities, the department has created a template for completing job hazard analyses and plans to begin an assessment of high risk tasks.

RECOMMENDATION:

We recommend the Department of Utilities:

18. Conduct job hazard analyses for employee job duties and apply the hierarchy of controls to select the controls for mitigating health and safety hazards.

Incident Investigations Could Better Align with Best Practices

In general, causes of accidents can be placed into the following four categories: unsafe physical acts by people, unsafe physical conditions, unsafe equipment or use of equipment, and acts of nature. According to OSHA's *Recommended Practices*, "The purpose of an investigation must always be to identify the root causes (and there is often more than one) of the incident or concern, in order to prevent future occurrences."

The City's IIPP gives responsibility of investigating accidents, injuries, and near misses to supervisors. According to the City's IIPP, "The purpose of the supervisor's investigation is to gather information and determine the cause(s) of accidents to prevent recurrence or to look into reported near misses so they do not become incidents." We reviewed documentation for a sample of 18 incident investigations in FY 2016-17 for sufficiency[14]. Based on this review, it appears that at least 28 percent of the investigations did not identify the conditions that contributed to the incident and at least 44 percent did not indicate what corrective action should be taken to prevent recurrence.

Based on this review, it appears that at least 28 percent of the investigations did not identify the conditions that contributed to the incident and at least 44 percent did not indicate what corrective action should be taken to prevent recurrence.

Insufficient incident investigations increases the risk of future recurrences of accidents and injuries and elevates the risk of near misses becoming incidents. Additionally, when OSHA violations are repeated, the proposed penalty for certain types of violations can increase. For example, the proposed penalty for the first repeated Regulatory, General, or Serious violation is generally

[14] The sample chosen consisted of all workers' compensation claims for FY 2016-17 that were closed as of the testing date. This resulted in a sample size of 18 incident investigations.

multiplied by two, the second repeated violation is generally multiplied by four, and the third repeated violation is generally multiplied by ten.

While the City's IIPP requires that supervisors investigate incidents, it appears that the Department of Utilities currently lacks a formal process for incident investigations. A formal process could include written procedures, training, or reporting forms and templates. After bringing this issue to the department's attention, one of the department's assigned Environmental Health and Safety contacted a consultant to provide Accident Investigation Awareness training to Department of Utilities' supervisors as well as Environmental Health and Safety staff. The target date for this training is set for late August 2018.

While the department is not required to have a formal process in place, OSHA's *Recommended Practices* state that a clear plan and procedure for conducting incident investigations is needed so that investigations can begin immediately after an incident occurs. To ensure incident investigations are sufficient and decrease the risk of recurring incidents, we recommend the Department of Utilities develop a formal process for conducting incident investigations.

RECOMMENDATION:

We recommend the Department of Utilities:

19. Develop a formal process for conducting incident investigations.

Formalizing Implementation Plans Can Enhance Accountability

ANSI/AIHA *Occupational Health and Safety Management Systems* (ANSI/AIHA *OHSMS*) states that implementation plans "shall define resources, responsibilities, timeframes, intermediate steps, and appropriate measurements of progress." Although the Department of Utilities is not required to formalize their implementation plans, it appears that a more formal approach could enhance accountability and ensure health and safety hazards are addressed in a timely manner.

Although the Department of Utilities is not required to formalize their implementation plans, it appears that a more formal approach could enhance accountability and ensure health and safety hazards are addressed in a timely manner.

For example, in December 2015, the City's Risk Management Division conducted a site inspection at Sump 96 in response to an employee falling through a damaged grate and sustaining minor injuries. The purpose of the inspection was to identify any potential exposure, provide recommendations, and to prevent a recurrence. As a result of this site inspection, the Risk Management Division identified numerous health and safety issues and provided corrective recommendations for the Department of Utilities to implement. In December 2017, the City's Risk Management Division conducted another site inspection at

Sump 96 in response to employees raising concerns regarding the site's safety. The results of this inspection showed that while the damaged grate had been fixed, other hazards identified in the December 2015 site inspection had not yet been addressed and that formal implementation plans had not been developed. As seen in figure 30 to the right, tripping hazards at Sump 96 have gone unaddressed for more than two years. Due to the lack of a formal implementation plan, it is unclear when the department plans to implement the remaining recommendations from the City's Risk Management Division.

Figure 30: Unaddressed Tripping Hazards at Sump 96 – February 2018

Source: Auditor photographs.

Upon discussion of this issue with the Department of Utilities, the department has developed an implementation project plan form. However, it is unclear what the review and approval process will be, if any. To ensure health and safety hazards are addressed in a timely manner and to increase the department's accountability, we recommend the Department of Utilities develop a process for creating formal implementation plans when health and safety hazards are identified.

RECOMMENDATIONS:

We recommend the Department of Utilities:

20. Develop a process for creating formal implementation plans when health and safety hazards are identified.

A Management of Change Process Could Help Minimize Risks

A "Management of Change" process is used to identify and manage changes to minimize the introduction of new hazards and risks into the work environment. This process can include considering how changes will affect standard operating procedures, maintenance, training, etc. Changes that can trigger a management of change process include changes in technology, equipment, facilities, work practices and procedures, design specifications, raw materials, organizational staff changes, and changes to standards or regulations. According to ANSI/AIHA *OHSMS*, "When changes are overlooked, additional hazards and risks may be introduced into the work environment." While the Department of Utilities has management of change processes in place at the City's two water treatment plants, these processes do not apply to all groups within the department.

In 2013, the Department of Utilities went through a department-wide reorganization. One of the results of this reorganization was the consolidation of the Field Services and Plant Services divisions into a single division, the

Operations and Maintenance Division. ANSI/AIHA *OHSMS* states that "significant changes" to an entity's organizational structure and staffing should trigger a management of change process. Although the Department of Utilities is not required to have management of change processes in place, in our opinion, the department's 2013 reorganization represents a significant change to the department's organizational structure, and a management of change process could have highlighted health and safety operations that would be affected by the reorganization.

For example, we found that some departmental policies and procedures manuals had not been updated since the reorganization and referenced divisions that no longer exist within the department. This raises questions about which employees are covered by these policies and procedures. It also raised the concern that employees may not understand what is expected and may perform work in an unsafe manner. Additionally, this could potentially hinder the department's ability to hold employees accountable to the department's health and safety standards. To minimize potential health and safety risks, we recommend the Department of Utilities develop formal management of change processes for all groups within the department; this should include a review of current departmental safety policies and procedures.

RECOMMENDATIONS:

We recommend the Department of Utilities:

21. Develop a formal management of change process.
22. Review and update departmental safety policies and procedures.

Appendix A: Department of Utilities Workplace Safety Survey

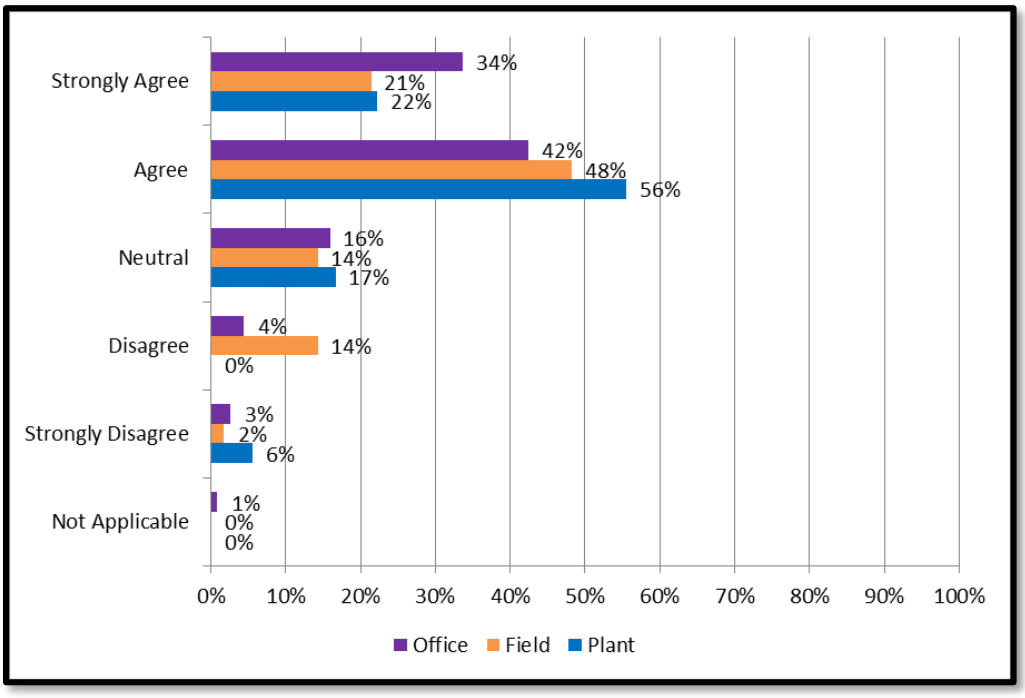
During the *Audit of the Department of Utilities Workplace Safety*, our office conducted an anonymous employee survey to get a sense of the department's safety culture. The survey consisted of 35 questions regarding management commitment, communication, employee involvement, training/information, learning organization/motivation, and compliance with policies and procedures. The survey was open to all Department of Utilities' employees between January 3, 2018 and January 26, 2018. Employees were asked to self-identify whether their work environment was primarily field, office, or plant, as defined in figure A-1 below. The survey received a total of 205 responses (approximately 43 percent of the department's employees at the time of the survey); 113 responses were from office employees, 56 responses were from field employees, and 36 responses were from plant employees.

Figure A-1: Department of Utilities Workplace Safety Survey Information

Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

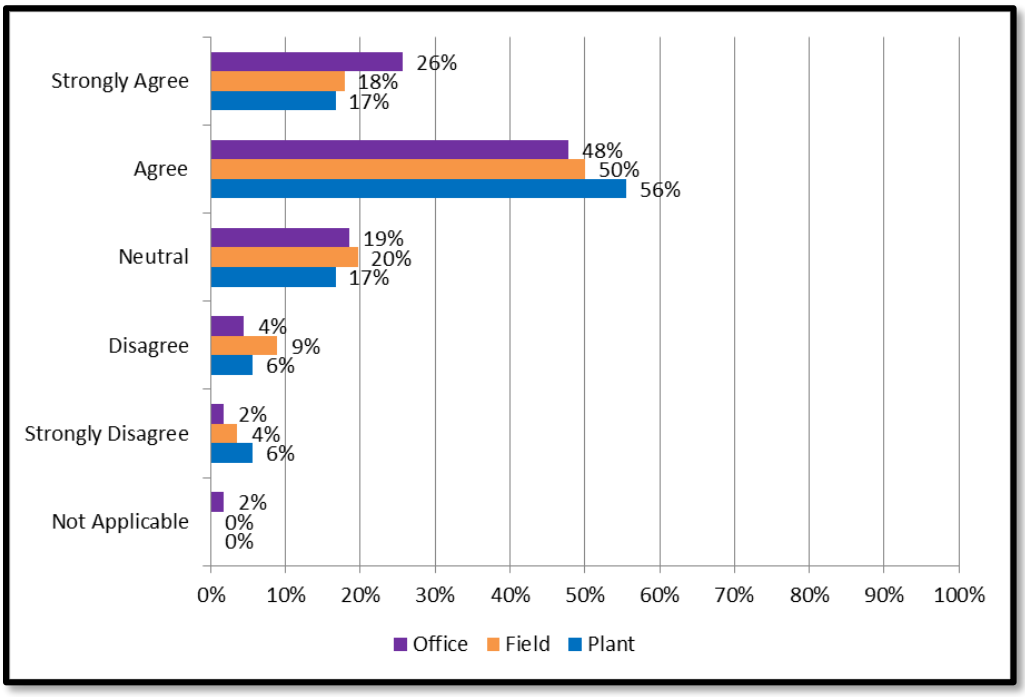
Figures A-2 through A-36 represent the results of the Department of Utilities Workplace Safety Survey.

Figure A-2: Survey Question 1 – Safety Is in Management's Priorities



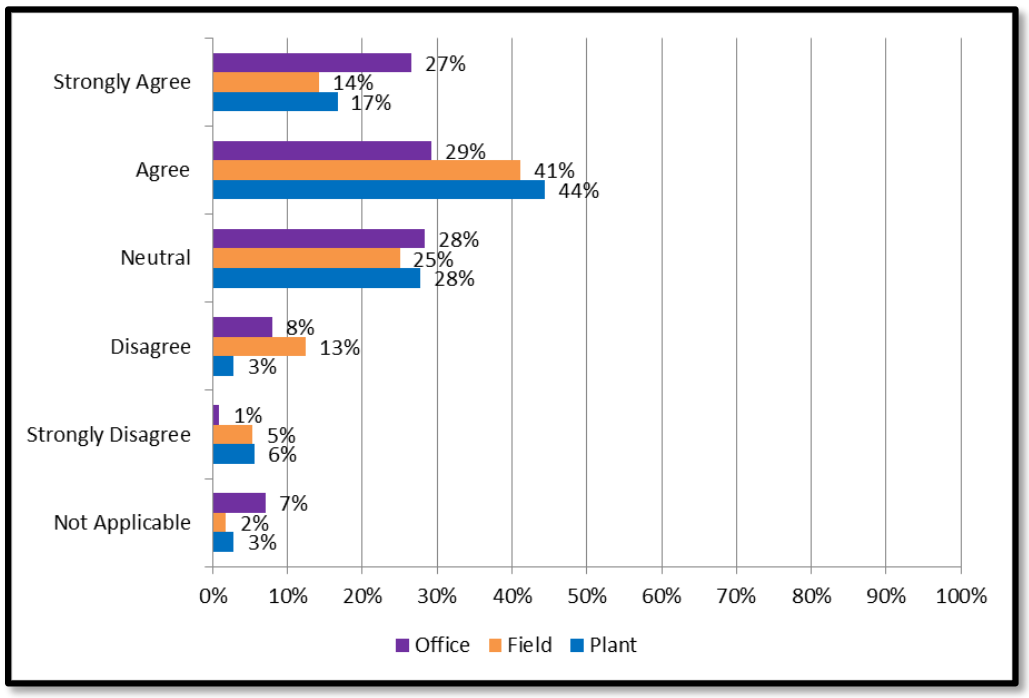
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-3: Survey Question 2 – Management Demonstrates the Importance of Safety by Following Safety Policies and Procedures



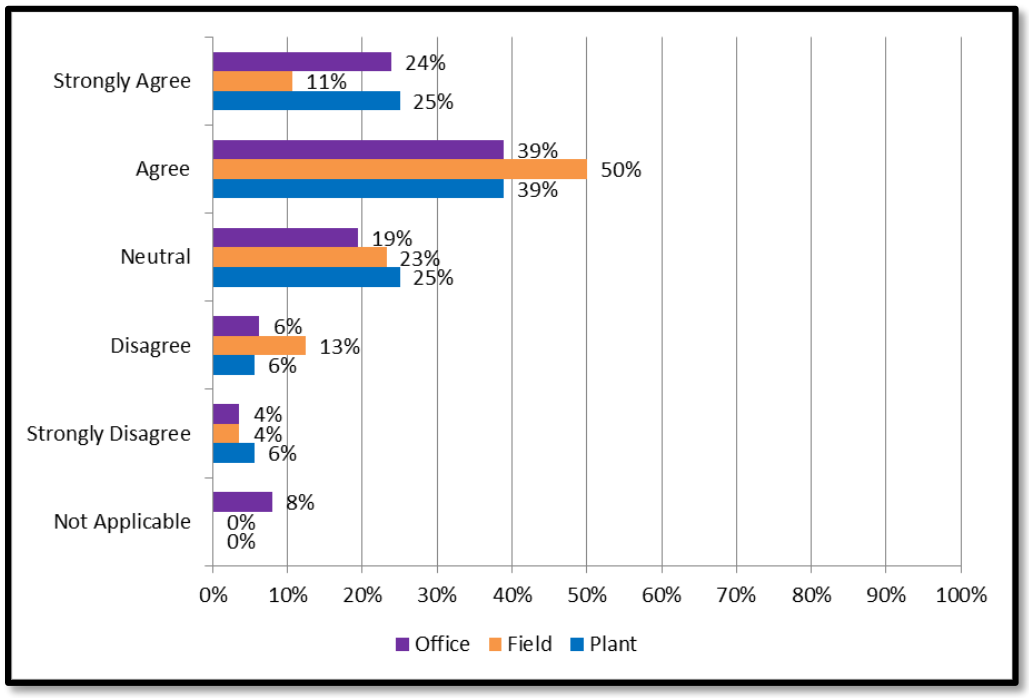
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-4: Survey Question 3 – Management Notices and Stops Unsafe Job Practices



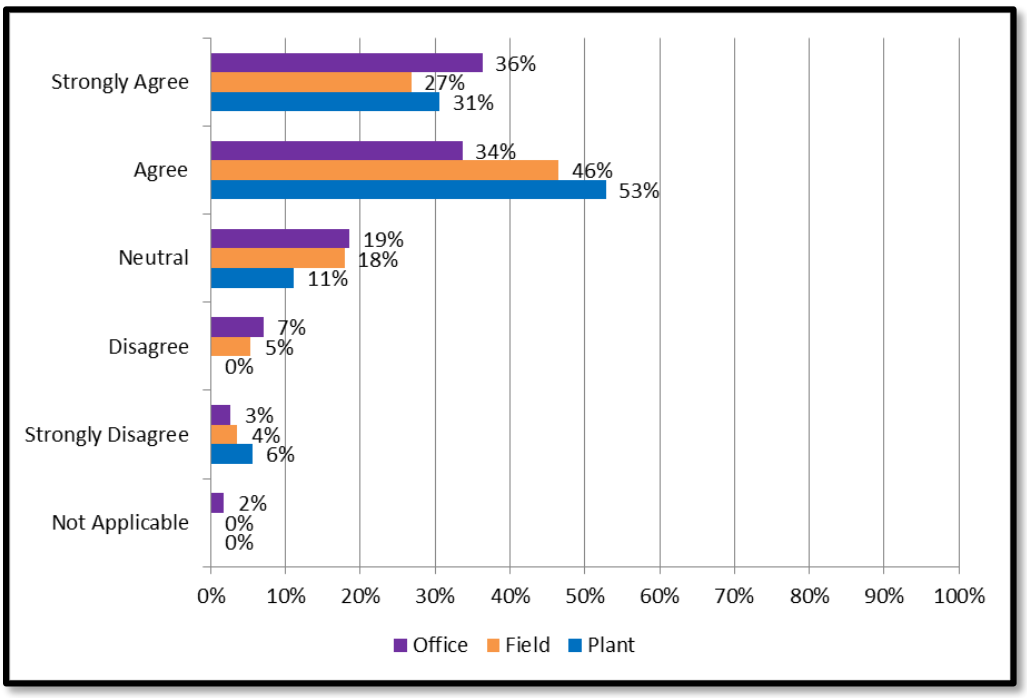
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-5: Survey Question 4 – Management Does Not Overlook Safety Issues that Happen Over and Over



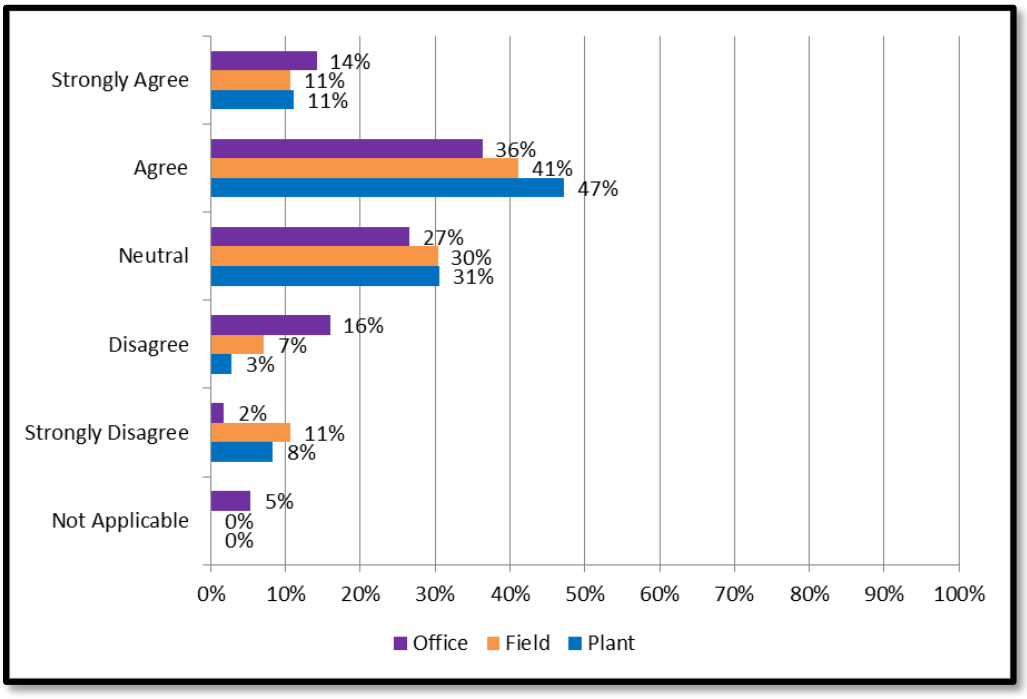
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-6: Survey Question 5 – Management Encourages Employees to Say Something When They See Unsafe Behaviors



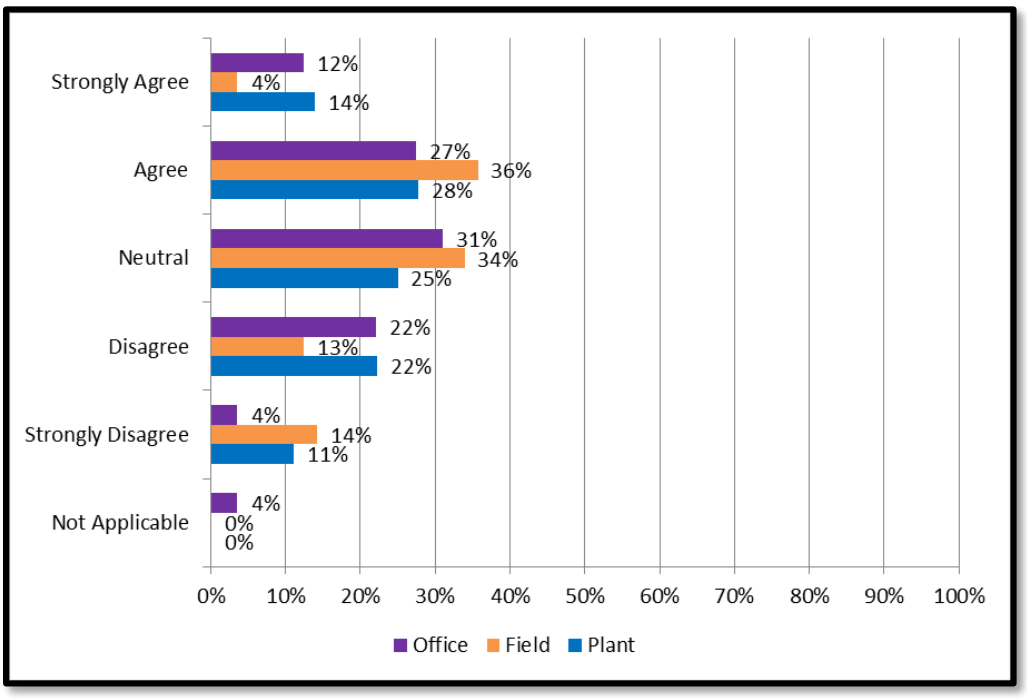
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-7: Survey Question 6 – The Department of Utilities' Communication System for Safety Concerns is Effective



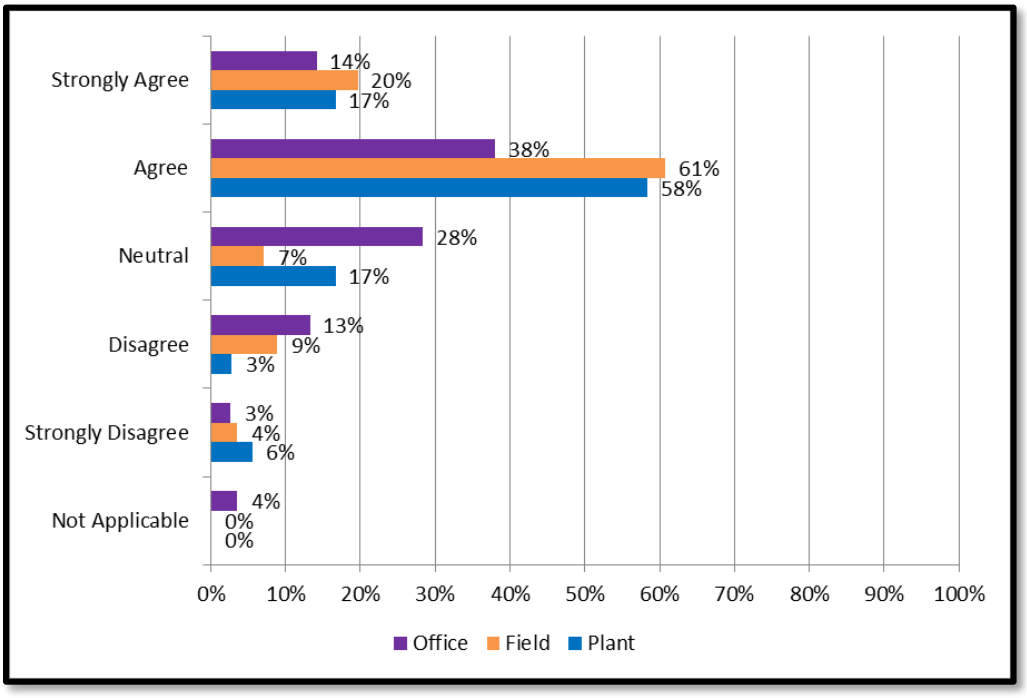
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-8: Survey Question 7 – Things Do Not "Fall Through the Cracks" When Communicating with Management



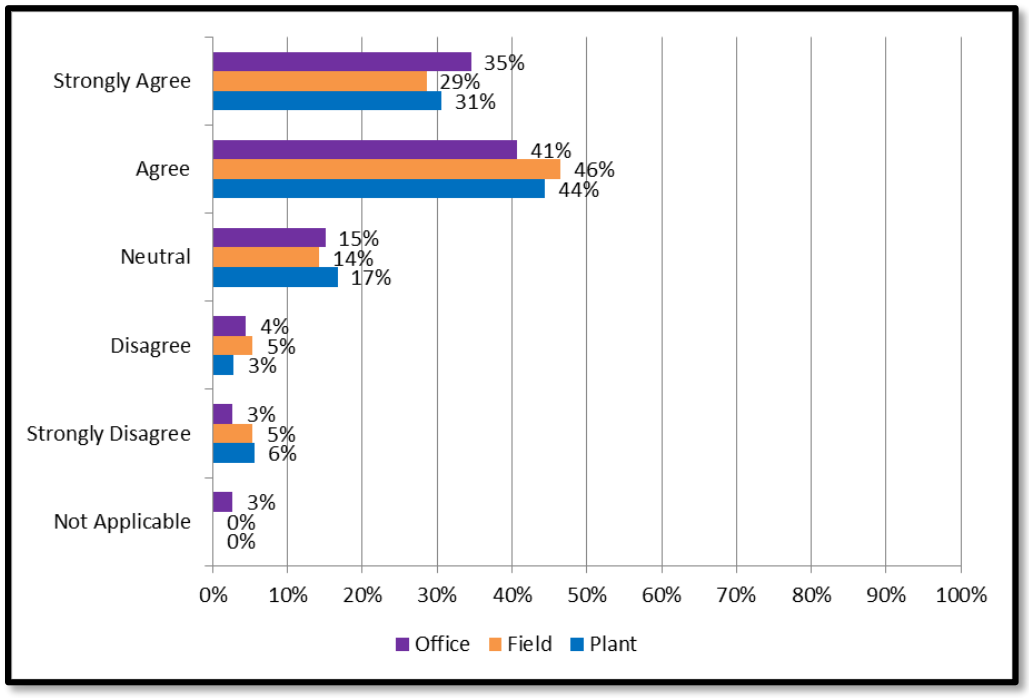
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-9: Survey Question 8 – Safety Topics are Discussed Frequently



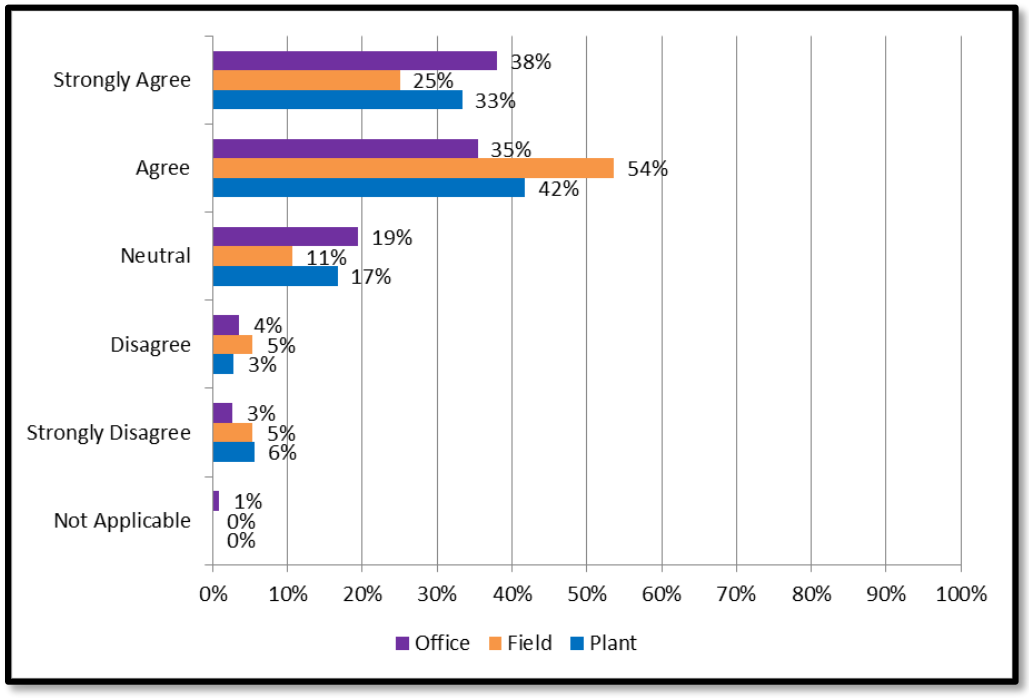
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-10: Survey Question 9 – I Feel Safe in Discussing Safety Concerns



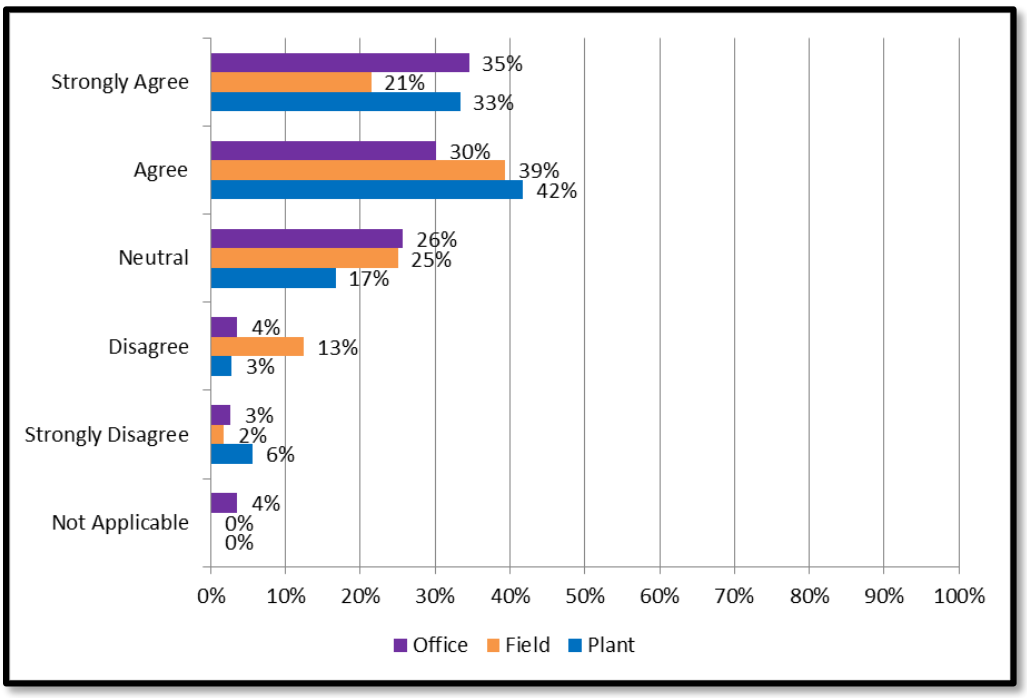
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-11: Survey Question 10 – I Feel Safe in Reporting Safety Concerns to Management



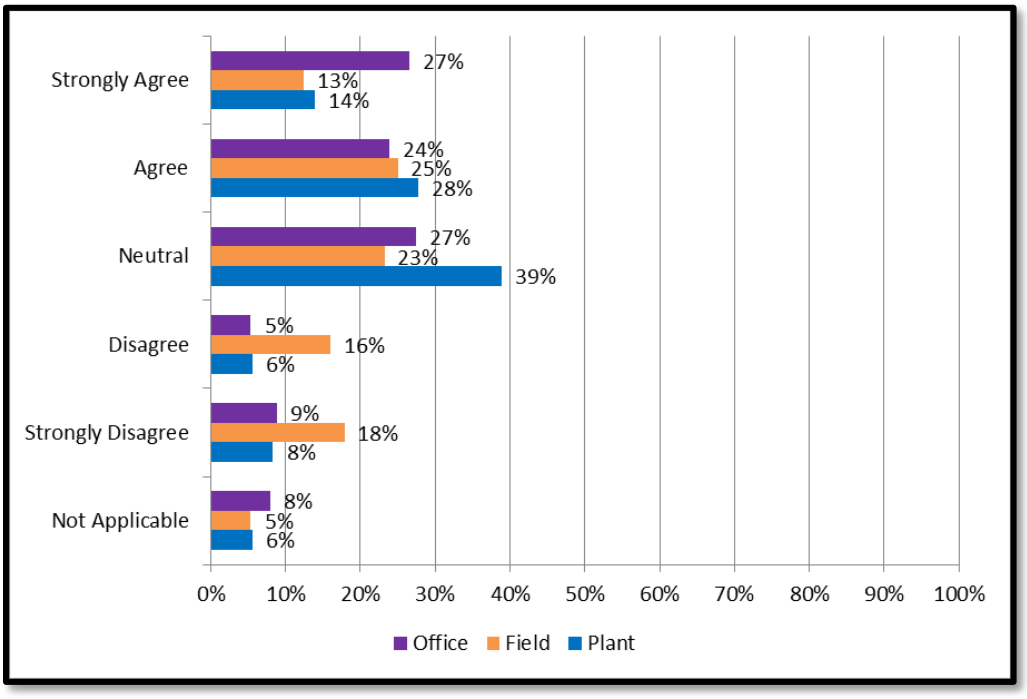
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-12: Survey Question 11 – I Feel Safe in Reporting Safety Concerns to the City's Health and Safety Office



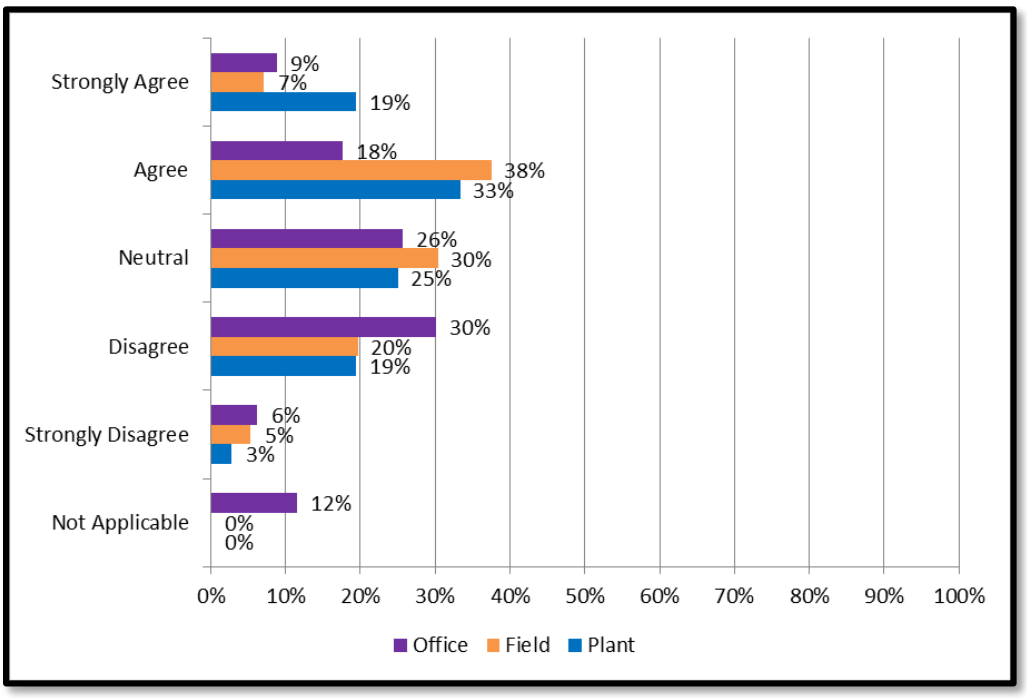
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-13: Survey Question 12 – I Feel Safe in Reporting Safety Concerns to the City's Whistleblower Hotline



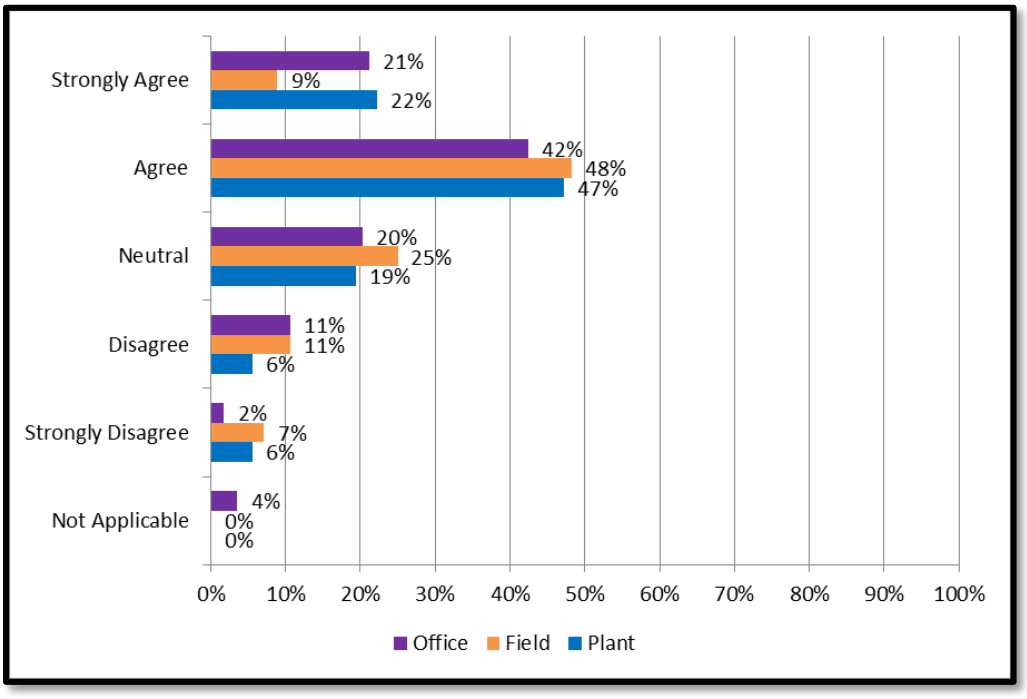
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-14: Survey Question 13 – I Am Often Asked for My Input on Safety Concerns



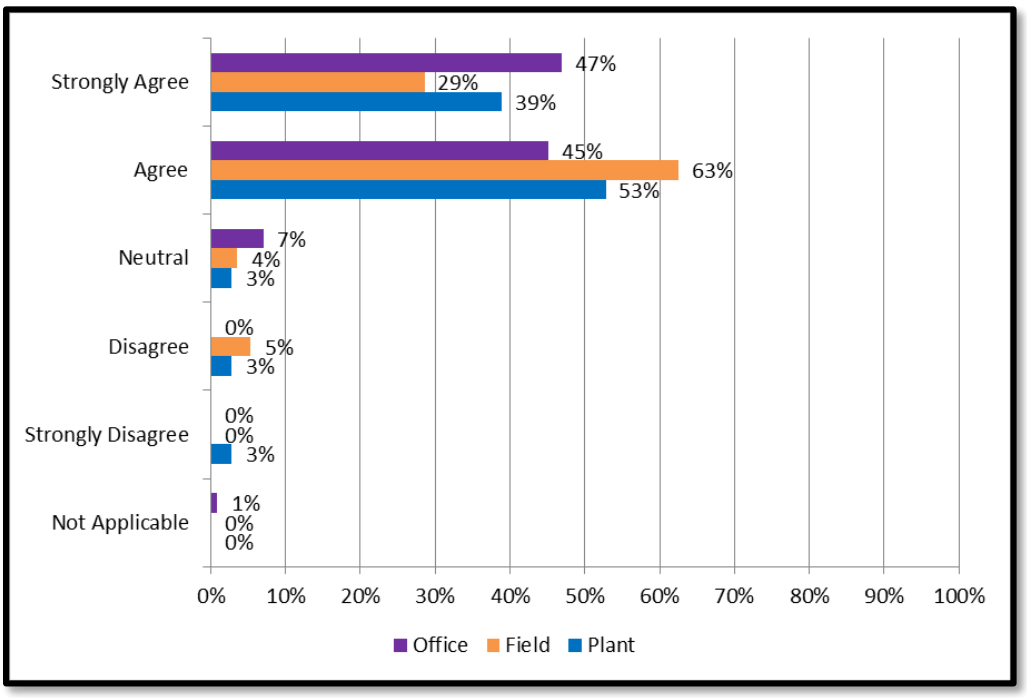
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-15: Survey Question 14 – Employees Freely Speak Up if They See Something That May Negatively Affect Safety



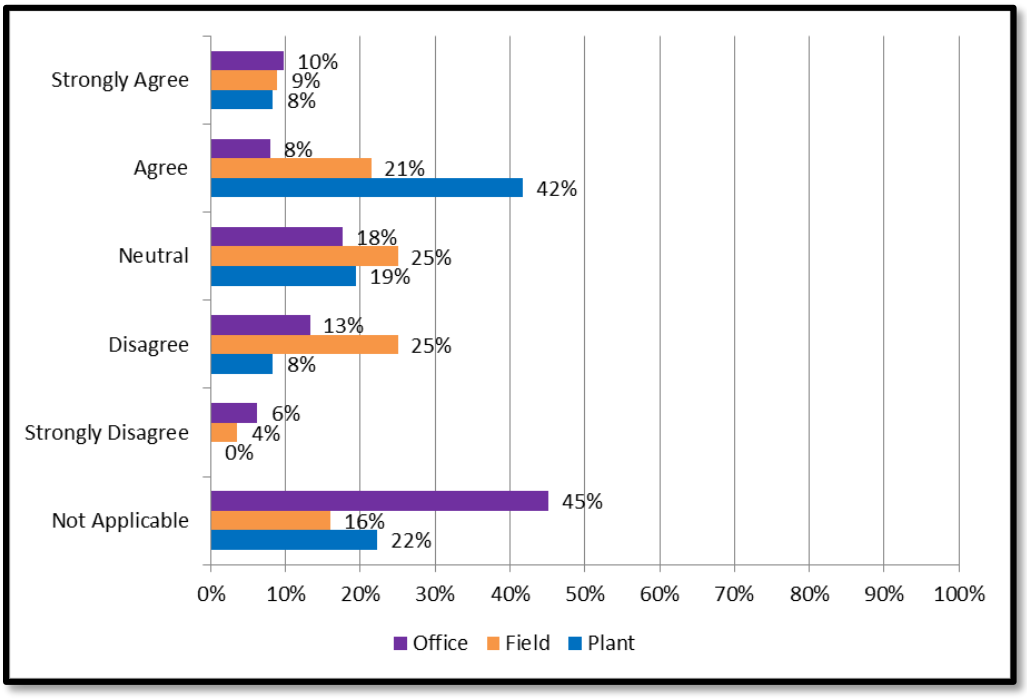
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-16: Survey Question 15 – If I Noticed a Safety Hazard, I Would Point it Out to Management



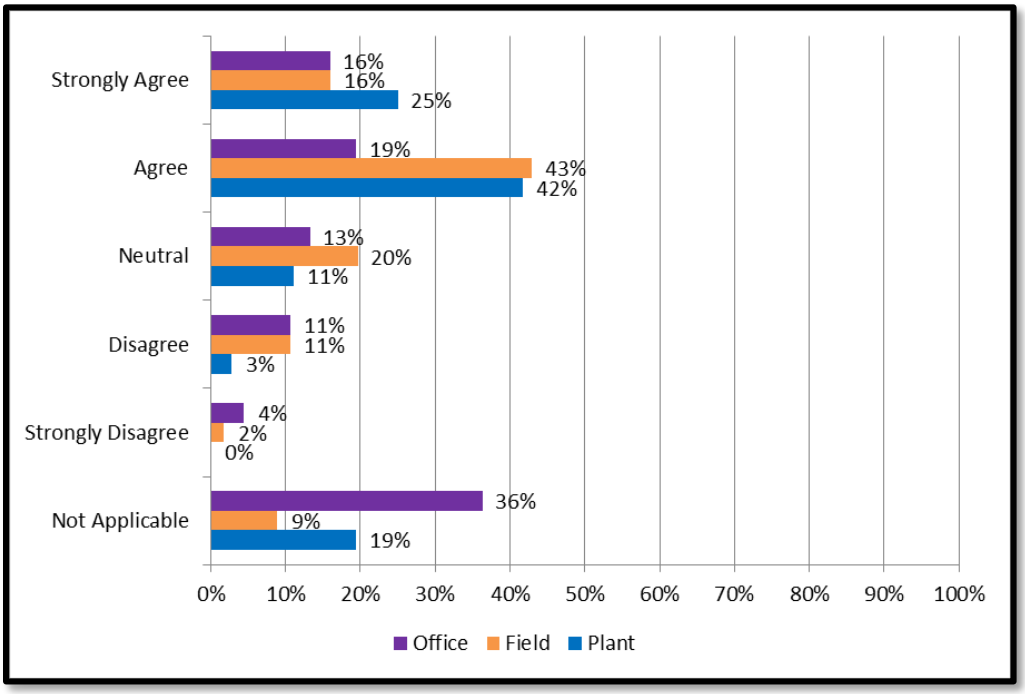
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-17: Survey Question 16 – I Have Reported at Least One Near Miss While Working for the Department of Utilities



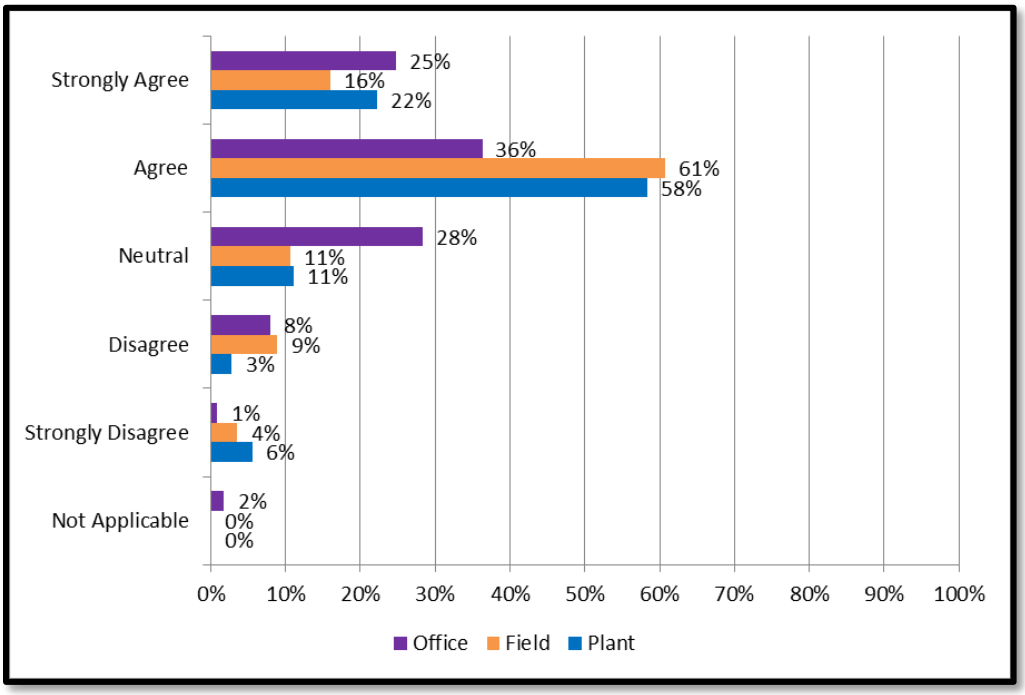
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-18: Survey Question 17 – I Have Reported at Least One Safety Incident While Working for the Department of Utilities



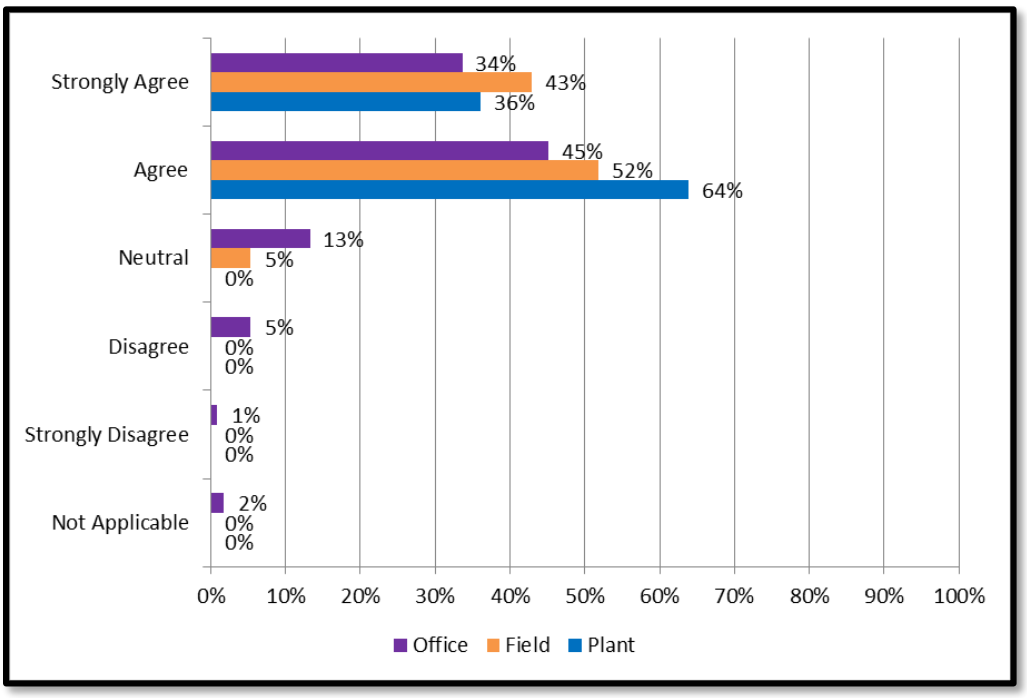
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-19: Survey Question 18 – The Department of Utilities is Actively Doing Things to Improve Workplace Safety



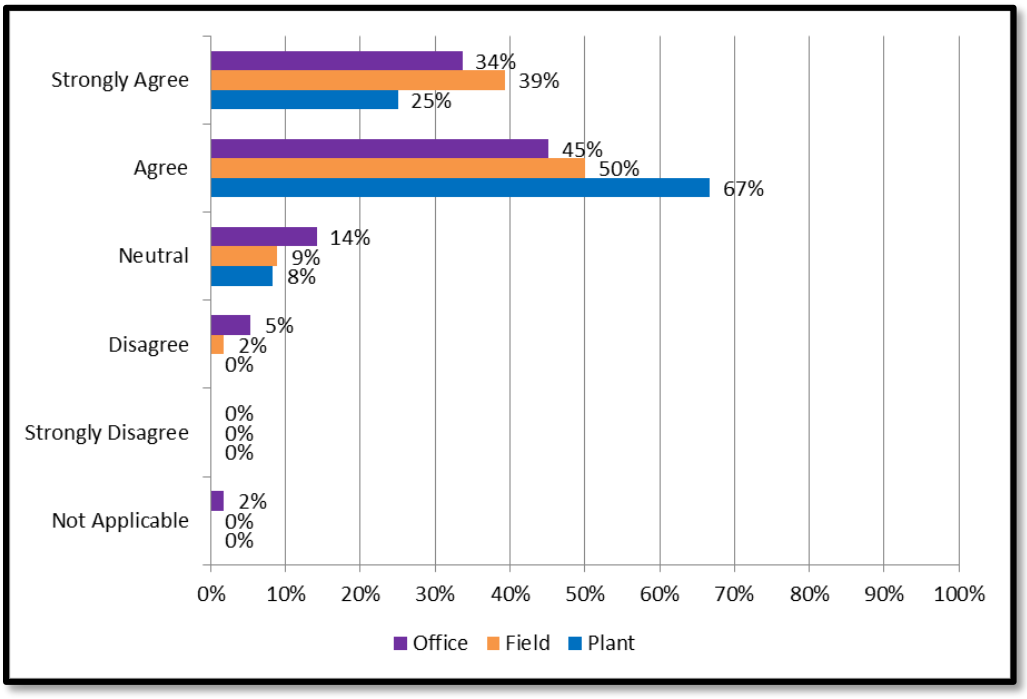
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-20: Survey Question 19 – I Understand My Roles and Responsibilities Regarding Workplace Safety



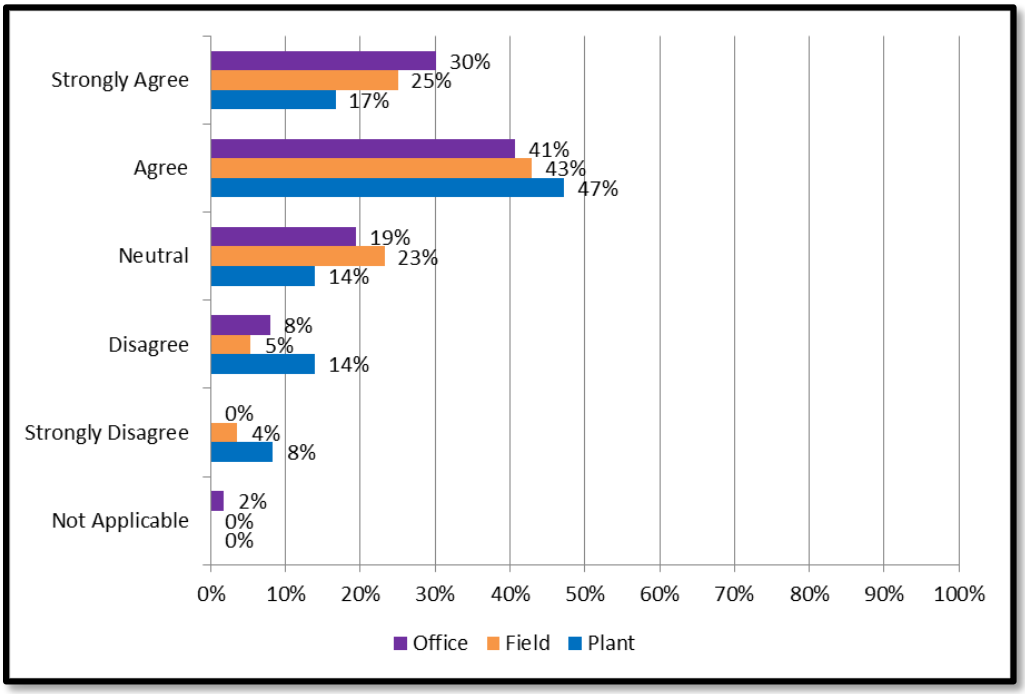
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-21: Survey Question 20 – I Understand My Employer's Roles and Responsibilities Regarding Workplace Safety



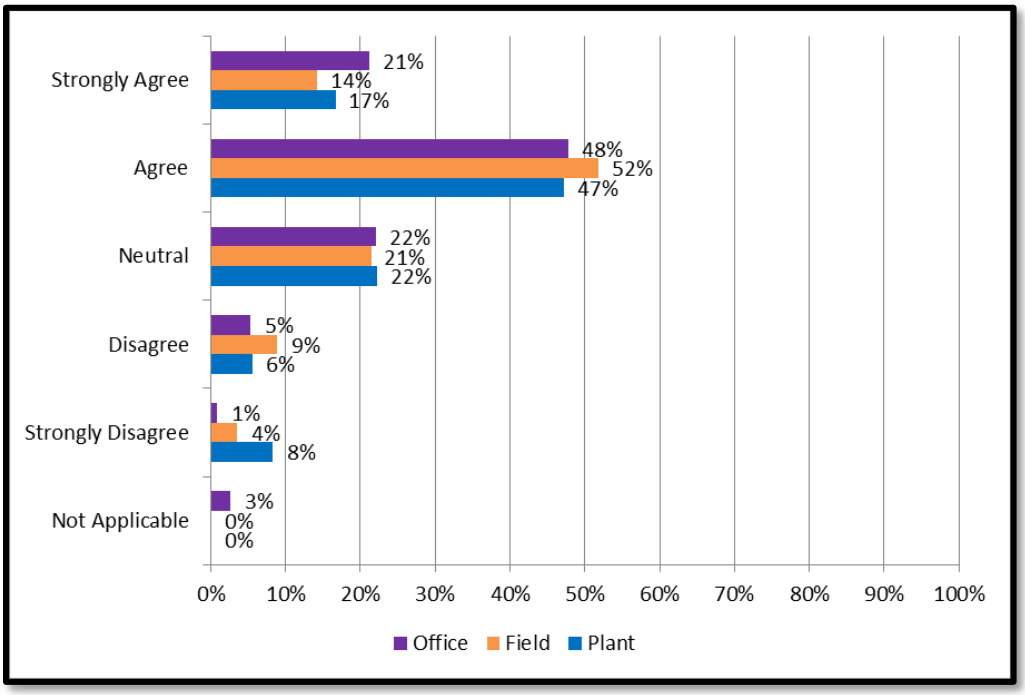
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-22: Survey Question 21 – I Am Confident That I Have or Will Receive the Appropriate Training to Perform My Job Duties Safely



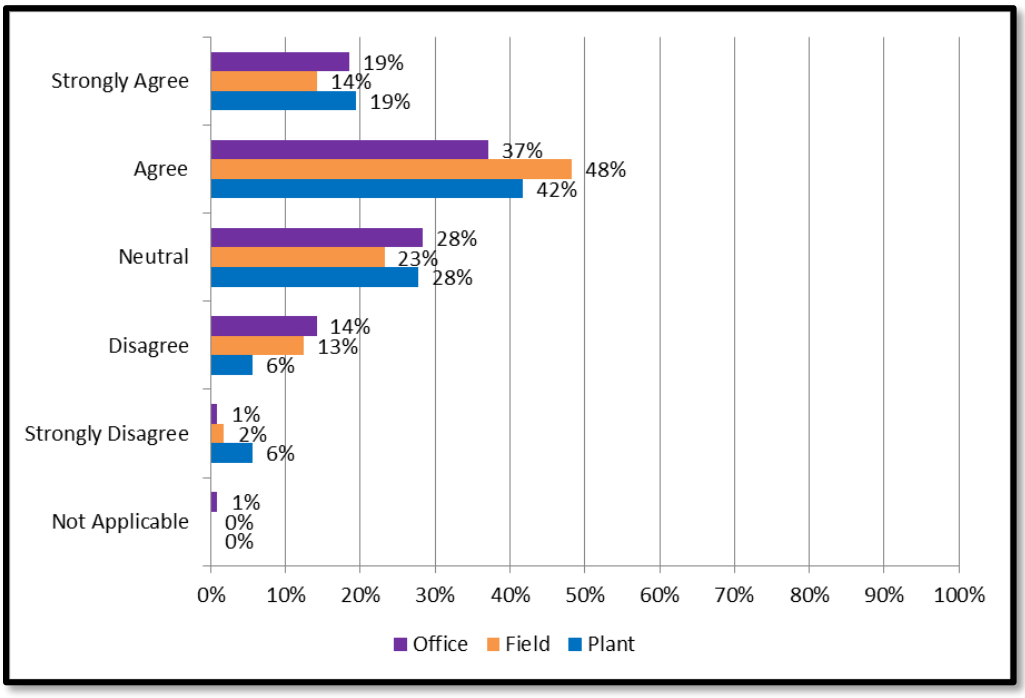
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-23: Survey Question 22 – The Safety Training I Have Received is Effective



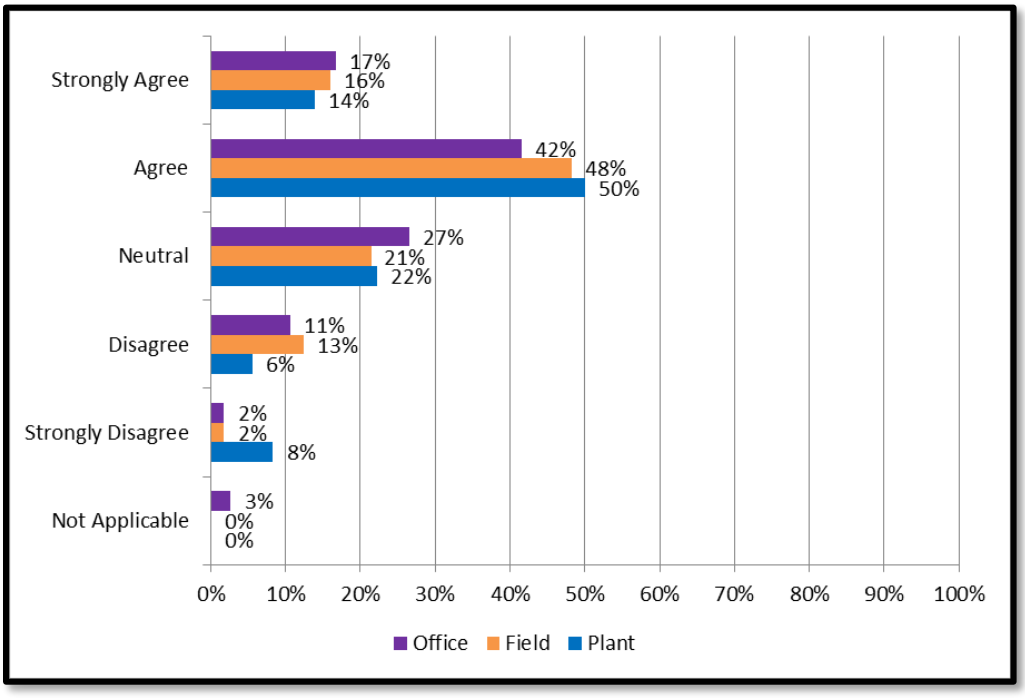
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-24: Survey Question 23 – Information About Safety is Easily Available



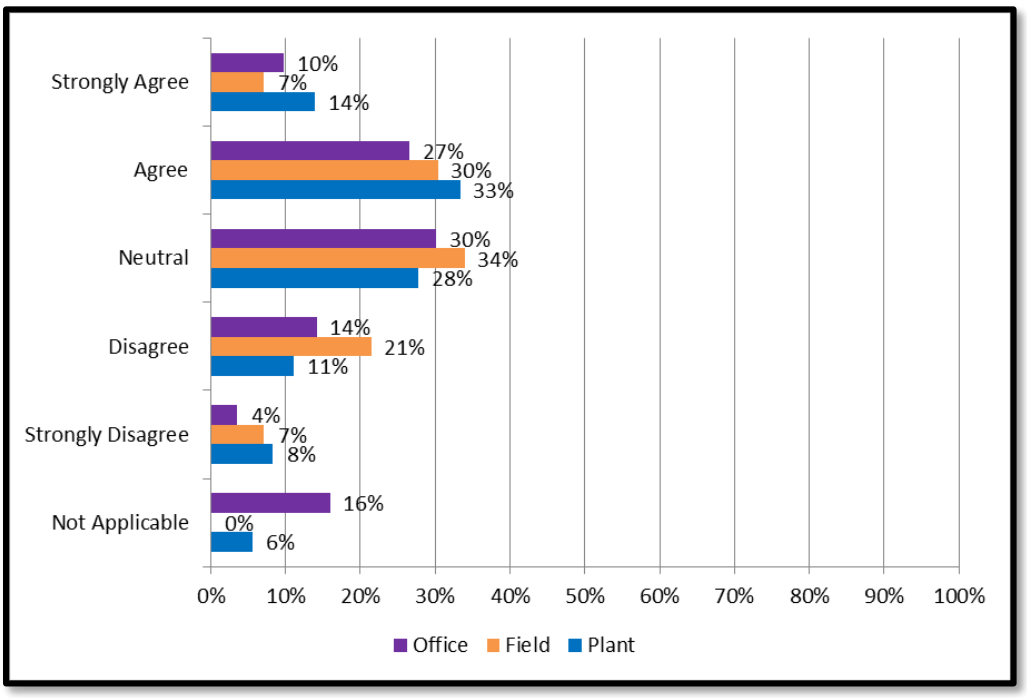
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-25: Survey Question 24 – Management Sets Clear Expectations Regarding Safety



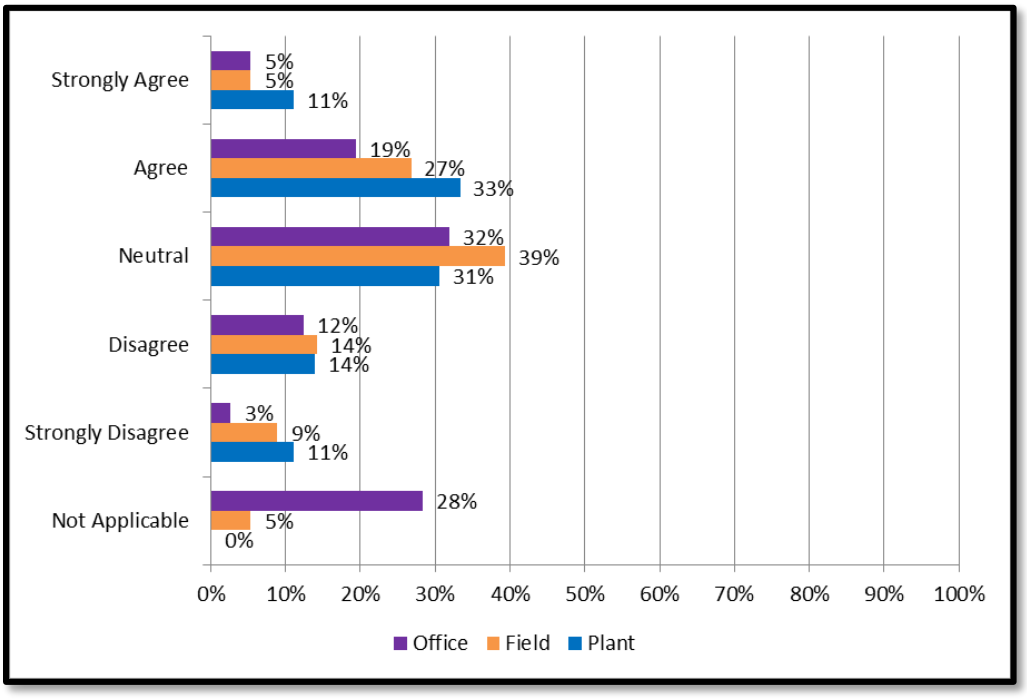
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-26: Survey Question 25 – When a Safety Incident is Reported, Employees Receive Feedback



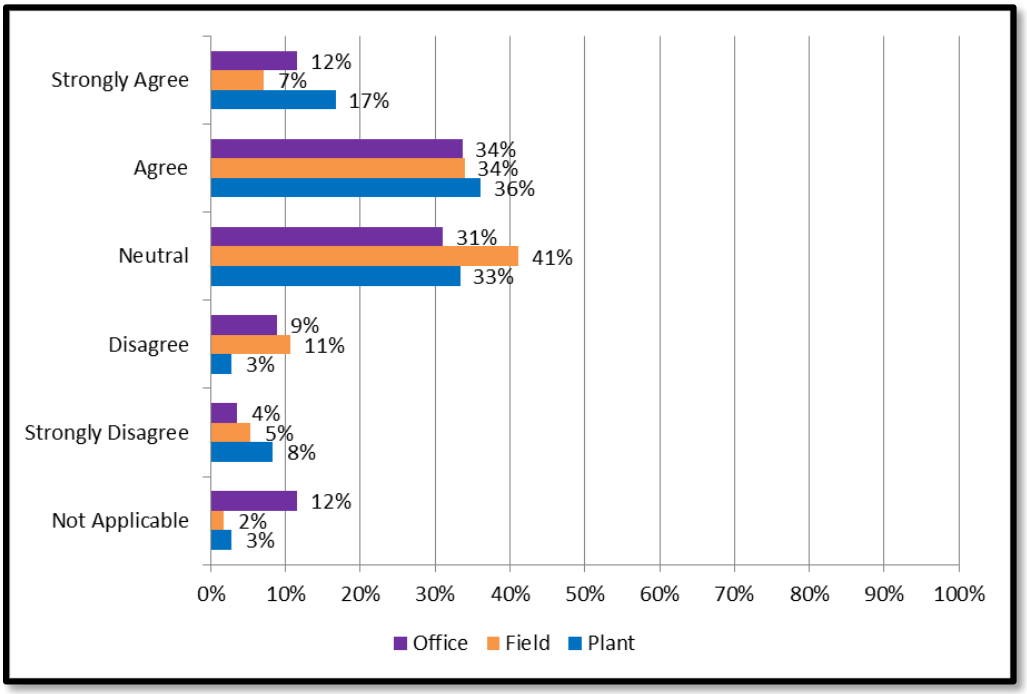
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-27: Survey Question 26 – I Receive Appropriate Feedback on My Safety Performance



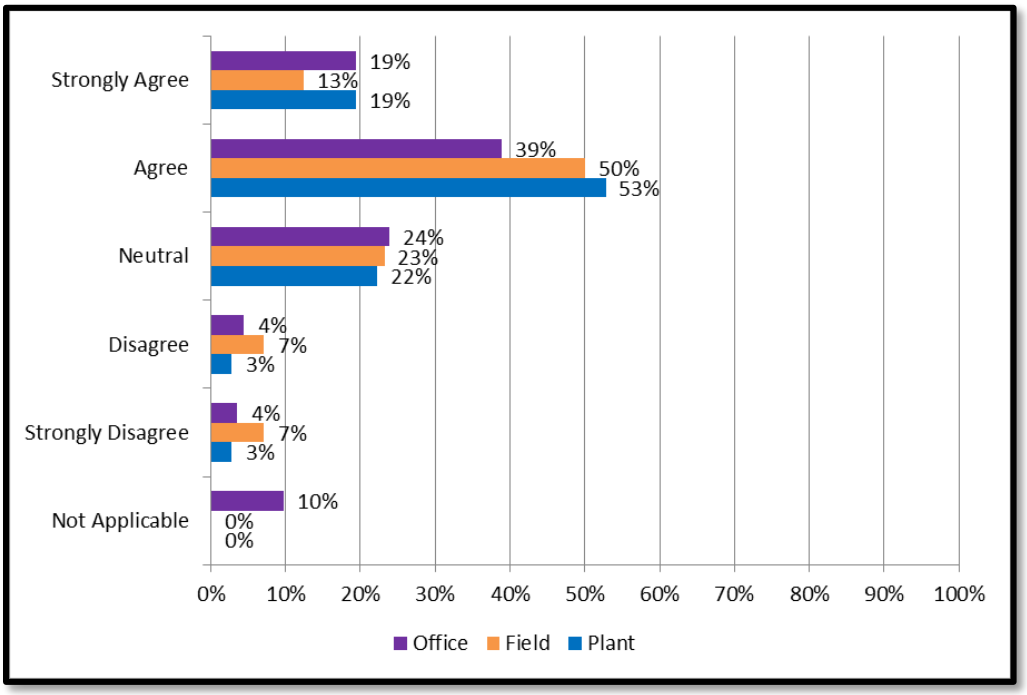
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-28: Survey Question 27 – When a Safety Incident is Reported, Appropriate Changes are Made to Safety Policies and Procedures



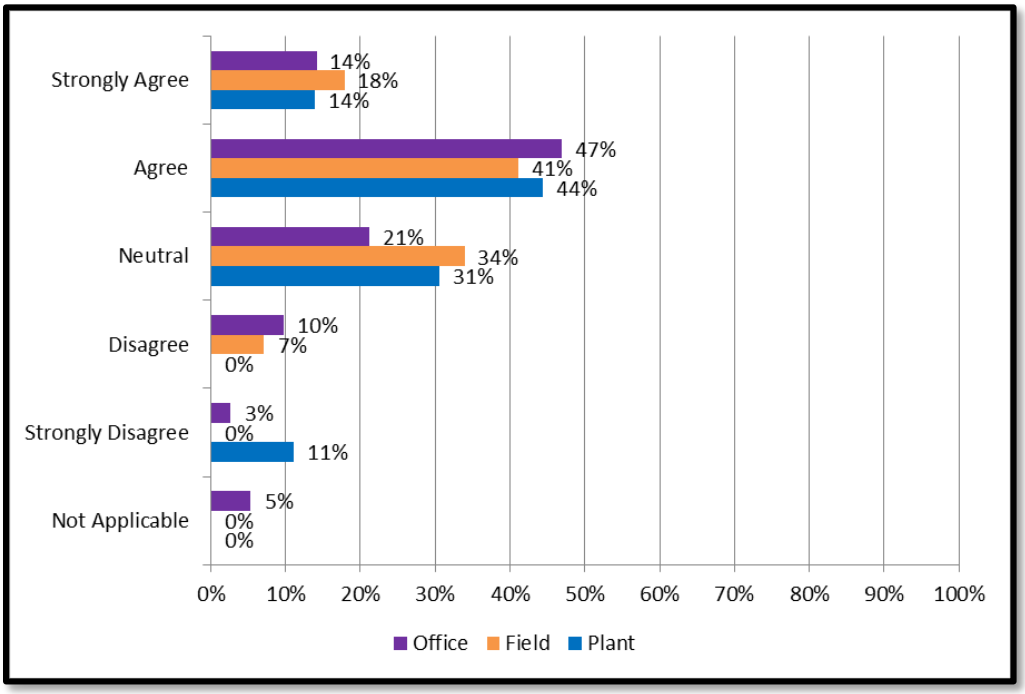
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-29: Survey Question 28 – Safety Incidents are Used as Opportunities for Learning



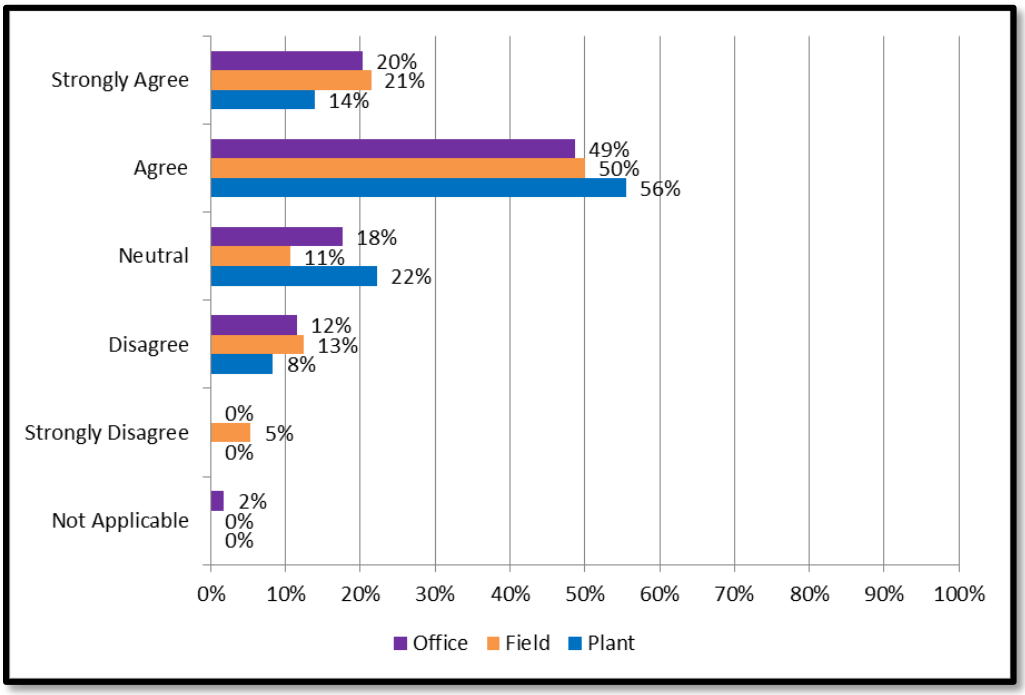
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-30: Survey Question 29 – There are Sufficient Written Safety Policies and Procedures to Perform My Job Duties



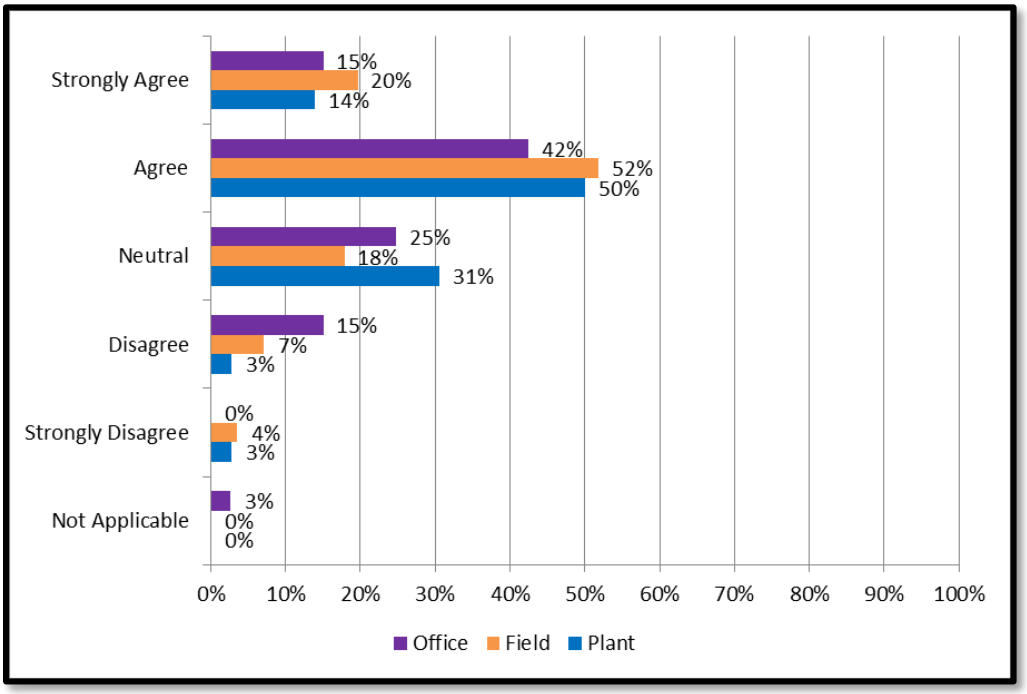
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-31: Survey Question 30 – I Have Read, Understand, and Received Training on the City's Illness and Injury Prevention Program (IIPP)



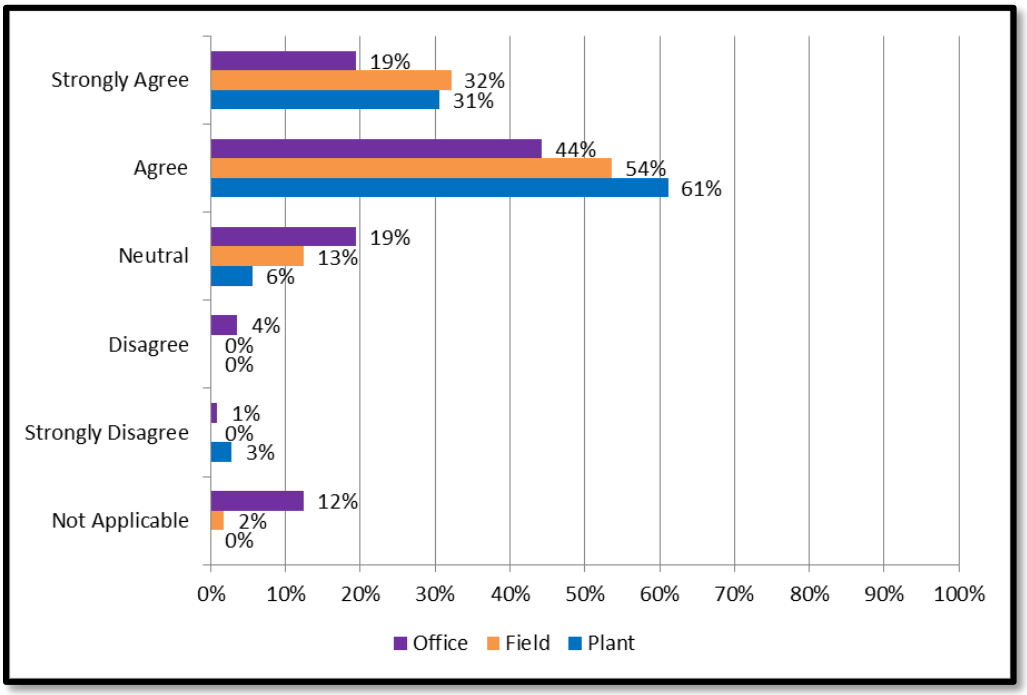
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-32: Survey Question 31 – I Have Read, Understand, and Received Training on the Department of Utilities' Safety Policies and Procedures



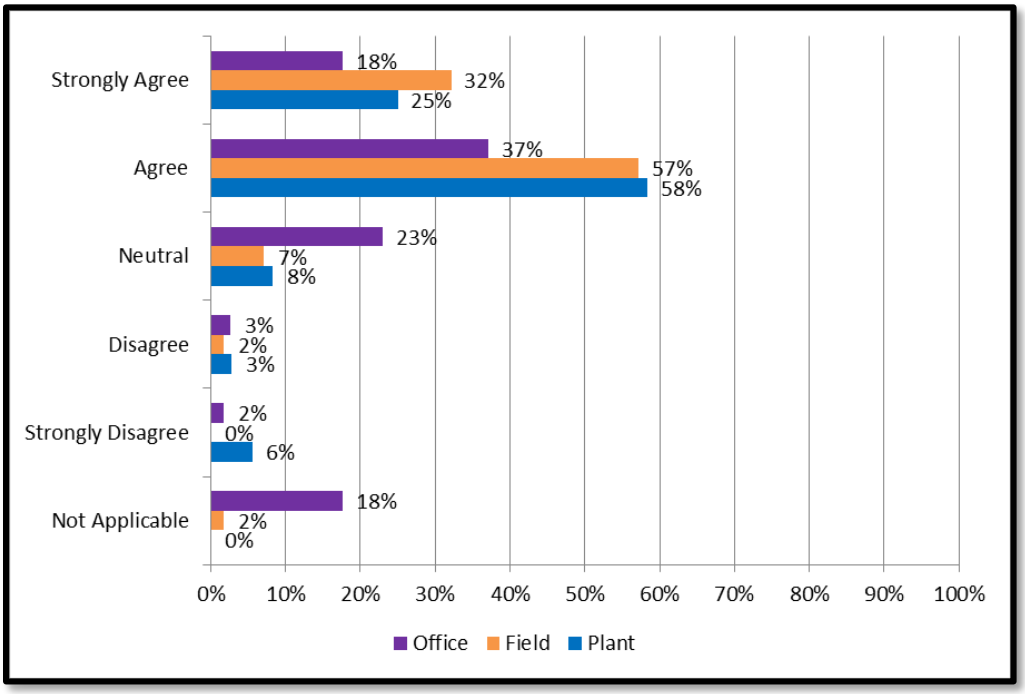
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-33: Survey Question 32 – I Know What Safety and Personal Protective Equipment Should Be Used to Perform My Job Duties Safely



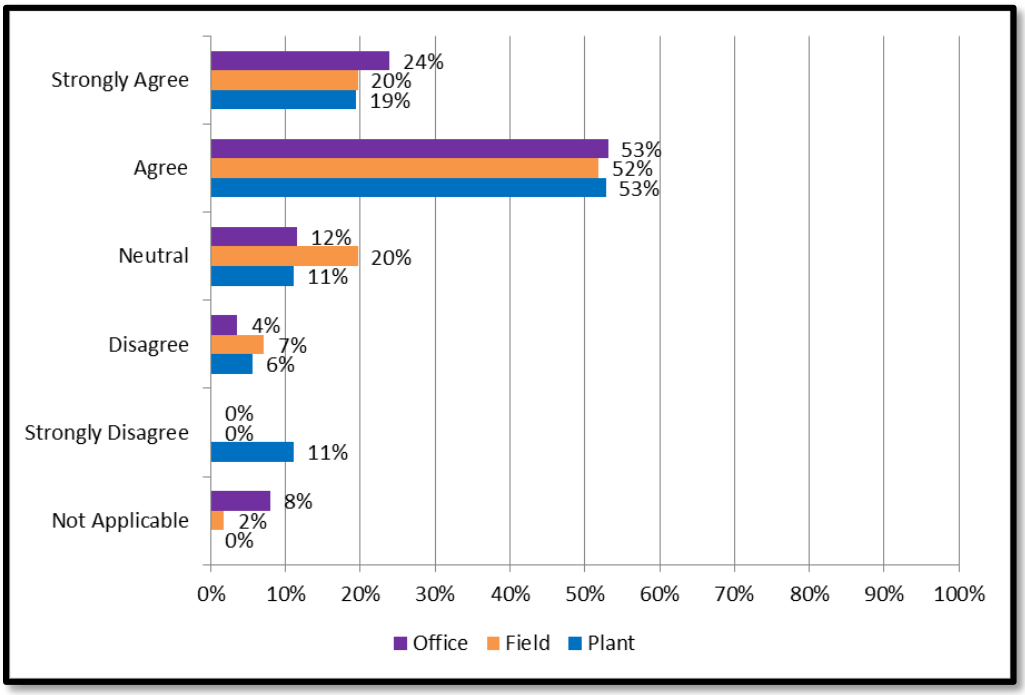
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-34: Survey Question 33 – I Have Access to the Appropriate Safety and Personal Protective Equipment to Perform My Job Duties Safely



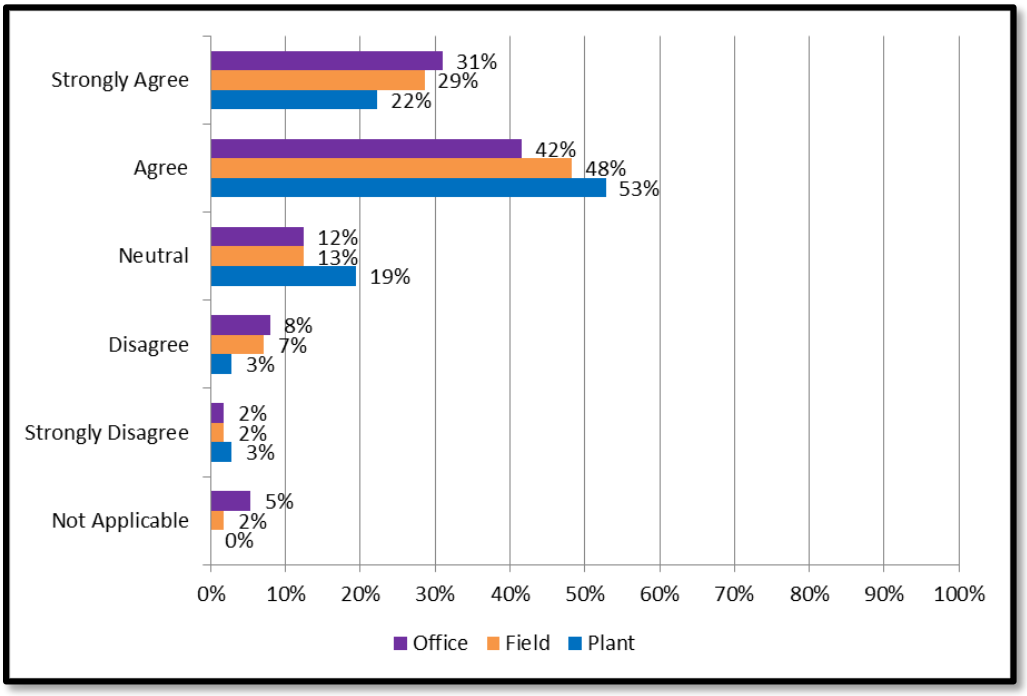
Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-35: Survey Question 34 – I Have Enough Time to Complete My Job Duties Safely



Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

Figure A-36: Survey Question 35 – I Know That I Can Stop Work If I Think Something is Unsafe and Management Will Not Give Me a Hard Time



Source: Auditor generated based on Department of Utilities Workplace Safety Survey results.

City of SACRAMENTO
Department of Utilities

MEMORANDUM

DATE: April 13, 2018

TO: Jorge Oseguera, City Auditor

FROM: William O. Busath, Director Department of Utilities

CC: Fran Halbakken, Assistant City Manager

SUBJECT: **Audit of the Department of Utilities Workplace Safety**

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1. This letter is in response to the City Auditor's Audit of the Department of Utilities Workplace Safety.

2. The Department of Utilities ("DOU"; "Department"), Logistics Section and Finance Division acknowledge receipt and concur with the recommendations from the City Auditor's draft report.

3. Corrective actions are actively being taken. In addition, internal operating procedures are being updated and staff training has begun to ensure implementation of the recommendations. It is DOU's understanding that the City Auditor will review completed recommendations for effectiveness of policy, procedure and implementation.

4. I would like to take this opportunity to thank the City Auditor and staff for their efforts in identifying process improvements in this audit. DOU decided to fund a position in the City Auditor's office to improve our practices and procedures and to identify areas where efficiencies might be realized. We are pleased with the outcome of this audit both for DOU and for the City. Please feel free to contact me directly should you have any questions.

5. Below is the response of the Department of Utilities to the 22 audit recommendations identified in the audit report:

AUDIT RECOMMENDATIONS AND DEPARTMENTAL RESPONSE:

1. **Review and update existing policies and procedures concerning safety and personal protective equipment to fill in gaps and clarify its appropriate use.**

   Response: DOU is in the process of amending existing policy to clarify the required personal protective equipment. This includes, but is not limited to, amending the hard hat and safety vest portion of the policy. Currently DOU is updating work type/function Standard Operating Procedures (SOP) which will include PPE requirements for any employee or non-employee entering a DOU jobsite. In addition, DOU will create a generic PPE SOP that will cover miscellaneous operations. Once the SOP updates are completed, the policies and procedures manual will be updated, training provided, and refresher trainings will be scheduled. DOU's target completing amendments to existing policy is June 1, 2018. Updated policies and procedures will be finalized with the City Auditor no later than June 30, 2018. Training will follow and be complete by August 30th.

2. **Establish policies and procedures concerning safety and personal protective equipment where non-currently exist.**

   Response: DOU will determine which safety and personal protective equipment do not currently have a policy and procedure. This includes, but is not limited to, safety glasses and hearing protection. DOU intends to establish new policies by June 1, 2018. New policies and procedures will be finalized with the City Auditor no later than June 30, 2018.

3. **Establish a process for periodically inspecting safety equipment.**

   Response: DOU will amend existing policy to reflect an adequate process for periodically inspecting safety equipment in buildings and vehicles. Currently the Wastewater Collection section is piloting two work order types to track these inspections. The checklist includes numerous items, including a first aid kit inspection for quality and quantity, and fire extinguisher tag check. Staff will also be required to verify that hard copies of SDS are immediately accessible at well-known central locations. This will ultimately replace the required paper form. DOU will also refresh secure loading policy and pre- and post-trip inspection requirements. The final process will be finalized with the City Auditor no later than December 31, 2018.

4. **Consider negotiating a more restrictive and through reimbursement or other process for providing PPE in all the City's labor agreements. (This is a recommendation for Human Resources)**

   Response: City Human Resources is working on agreements with vendors that will eliminate the reimbursement process and the risk of fraud.

5. **Implement a more restrictive and thorough reimbursement process for PPE for Department of Utilities' employees. (This recommendation is for both DOU and Human Resources)**

   Response: This is an issue that came to the attention of the department over a year ago. We have responded in two ways:

1. All of the known cases have been thoroughly investigated and appropriate discipline has been administered.
2. The Department has increased the robustness of the approval process to reduce, or eliminate the risk of fraudulent boot reimbursement. These steps include:
    a. Ensure that the receipt states the OSHA code - ASTM F2412-05, ASTM 2413-05, or newer. If the receipt does not state the OSHA code, it must state that it is a reinforced toe of some type (steel, aluminum, etc.). We do not accept receipts that simply have a handwritten note indicating they are reinforced toe.
    b. There are a few retailers that actually have a "steel toe" stamp. We call the vendor if we see a stamp, to verify it was not stamped by the employee.
    c. If the receipt does not state such, we require that the preparer provide some proof that the boots are steel toe. This might include something from the box that indicates it is a reinforced toe that we can tie back to the receipt to ensure that it represents what was actually purchased.
    d. Run a history of the employee receiving the boots to ensure that they are not receiving reimbursement for more than two pairs per fiscal year.
    e. Ensure the employee is part of a labor union that states the boot reimbursement is allowable.
    f. Ensure that the amount being submitted for reimbursement does not exceed the maximum per pair.
    g. Ensure that reimbursement is not being provided for items purchased with the boots that are non-reimbursable. An example of this would be socks or extra laces.

6. **Formally establish who has responsibility over the department's gas monitoring program.**

    Response: The department is recommending that the Superintendents be responsible for the Department's gas monitoring program with support from the Safety Specialists. This will be documented in the policy described in the response to recommendation number seven.

7. **Develop departmental policies and procedures for administration and use of gas monitoring equipment.**

    Response: DOU will develop a policy for gas detector use and accountability that will include a section on the appropriate reallocation of assets when there are personnel changes, as well as, proper bump/dock and use procedures. New policies and procedures will be finalized with the City Auditor no later than June 30, 2018.

8. **Perform periodic audits of gas monitor data to ensure employees use gas monitors in accordance with departmental policies.**

    Response: DOU's Physical Inventory of all leased assets was completed January 9, 2018; updates will be conducted quarterly. Assignment of devices by group has been validated by Superintendents before monitoring system (INET) is updated. Superintendents have completed this task. Department will also review current data management systems (Maintenance Connection and Cityworks) to determine the best way to track daily use of the devices by field staff. Quarterly updates will be included in the department policy for administration of gas monitoring system. New policies and procedures will be finalized with the City Auditor no later than September 30, 2018.

9. **Consider installing GPS tracking systems in all the department's vehicles.**

   Response: The audit correctly states that approximately 37% of the department's vehicle fleet is lacking GPS tracking system. Upon further investigation, DOU has determined that only about 2% of the vehicles without GPS tracking systems are drivable. Those vehicles will receive GPS tracking system by December 2018. The remaining fleet identified in the report will be evaluated with Public Works, Fleet Division to determine the best option to outfit these vehicles with GPS. These vehicles are non-drivable, a leading concern is that these vehicles do not have an adequate power supply to run a tracking device. DOU will report findings to City Auditor no later than June 30, 2018.

10. **Establish a process to periodically reconcile vehicle data with pre-and post-trip vehicle inspection data and hold employees accountable when pre-and post-trip inspections are not completed.**

    Response: DOU will establish a formal process and hold employees accountable for pre- and post-trip inspections. Two staff from wastewater have been trained as "train-the-trainer" for pre-post walk around vehicle inspections. As a result, waste water has been able to train the rest of their staff. The process that waste water used will be the model for the rest of the department. The training dates done by waste water were documented, additional training at other sections will be scheduled by May 1, 2018. A written training procedure was developed and will be formalized with the Department by July 30, 2018. In addition, the pre-post trip process is included on performance evaluations. To verify if pre- and post- trip inspections are completed Supervisors were trained on Zonar functionality and reporting. Supervisors are now able to monitor their equipment and staff. A formal Zonar process/utilization procedure will be completed July 30, 2018. Supervisors will receive refresher training annually regarding acceptable, union negotiated, usage of the Zonar program. Once the procedure is established with wastewater staff and management, it will be rolled out to all applicable staff, including training, by November 1, 2018.

11. **Develop a plan to promote compliance with traffic laws.**

    Response: DOU's policy and procedure manual mandates compliance with California State Vehicle Codes and that operators practice safe, responsible driving habits. DOU will incorporate this section of the manual as a stand-alone training on the monthly schedule for 2018. Retrieval of Zonar speed exceedance information will be gathered semi-annually to monitor for compliance with speed laws. The information gathered will also be used to determine if additional training is required.

12. **Update the City's Wireless Telephone Use While Driving policy and require employees to acknowledge the policy. (This is a recommendation for Human Resources)**

    Response: When AB 1785, Distracted Driving, was passed, the City sent out a memo with the Bill attached through Target Solutions for all City employees to acknowledge. The City will attach the law to the Wireless Telephone Use While Driving policy until the policy can be updated and circulated with the unions. Supervisors should ensure that all employees acknowledged the AB 1785 in Target Solutions or submitted an acknowledgement on paper. This will be accomplished by November 1, 2018. DOU employees found using wireless phones while driving will be disciplined appropriately.

13. **Provide additional driver safety training to employees who frequently travel for City business.**

    Response: DOU will to systematically schedule EVOC training for all employees who frequently travel for City business. This will be completed by April 1, 2019

14. **Establish written procedures for the control of hazardous energy (lockout/tagout).**

    Response: DOU employees have maintained internal best practices for lockout/tagout without a written policy. DOU is working with Risk Management to develop a City-wide formal policy. Risk has communicated with multiple consulting firms for an estimated cost to review a sample of City sites and ultimately develop lockout/tagout (LOTO) procedure templates. DOU team will then begin to develop LOTO procedures. We estimate this project will take 3-5 years to complete. However, since this is a critical safety practice we will document our current practice, with recommended improvements from Risk by October 1, 2018. We will also implement the new LOTO policy as it is developed. Target date for the new LOTO policy completion is December 31, 2023.

15. **Develop a process to ensure employees complete required forms for entry into confined spaces. Consider adding confined space procedures directly to work orders.**

    Response: DOU will develop tracking specifications and procedures for confined space entry. The work order system is currently being evaluated to store and track the appropriate forms and incidents where confined space entry is required. Since DOU operates two data management systems this portion of the project will be done in two phases. Cityworks will be evaluated first, followed by Maintenance Connection. Even though two systems will be used for tracking purposes, the goal for DOU will be to have one unified approach to confined space accountability. New policies and procedures will be finalized with the City Auditor no later than December 31, 2018.

16. **Develop a comprehensive implementation plan to address the department of Utilities' fall protection concerns. (This is a recommendation for DOU and Risk Management Division)**

    Response: DOU key team members and Environmental Health and Safety (EHS) met to discuss a plan to move forward. A consultant firm will be required to assist. This is a multi-year process that will prioritize and systematically review all DOU facilities for inadequate fall protection. Operational and capital projects will be established to rectify the situations as they are encountered. This process is estimated to take DOU a minimum of at least 5 years to complete and should be completed by sometime in 2023.

17. **Develop a process to review tailgate safety meeting documentation periodically.**

    Response: Complete. The tailgate meeting policy has been reviewed with Supervisors and verification will be conducted at monthly management meetings using attendance sheets.

18. **Conduct job hazard analysis for employee job duties and apply the hierarchy of controls to select the control for mitigating health and safety hazards.**

Response: The job hazard analysis template has been approved by EHS. EHS and DOU Supervisor staff have begun developing JHAs for high-risk tasks. The first JHA was finalized on 4/5/2018. This is a multi-year process that will take an estimated 3-5 years to complete. DOU will implement the JHAs as they are completed. DOU will have a finalized procedure to the City Auditor no later than December 31, 2023.

19. **Develop a formal process for conducting incident investigations.**

    Response: DOU will develop a process for conducting incident investigations. EHS will provide incident investigation training for all supervisors. This training will occur in late August 2018. Formal process will be finalized with the City Auditor no later than September 1, 2018.

20. **Develop a process for creating formal implementation plans when health and safety hazards are identified.**

    Response: DOU has developed an Implementation Project Plan form. Expectations and requirements of this form will be communicated to all supervisors by June 1, 2018. Formal implementation plan will be finalized with the City Auditor no later than July 1, 2018.

21. **Develop a formal management of change process.**

    Response: DOU has **management of change processes (**MOCs) in place for SRWTP and EAFWTP. Drainage, Water and Wastewater will work together to develop MOCs with the help of a consultant. Formal implementation plan will be finalized with the City Auditor no later than Dec 1, 2020.

22. **Review and update departmental safety policies and procedures.**

    Response: DOU will include a review and update of the departmental safety policies and procedures in the MOC process. Formal process will be finalized with the City Auditor no later than December 1, 2018 and will be included with the MOC process.