










Occupational Health Branch • California Department of Public Health
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INCIDENT HIGHLIGHTS

	DATE May 6, 2023
	TIME: 5:30 a.m.
	VICTIM: 66-year-old maintenance worker
	INDUSTRY/NAICS CODE: Chickens, processing / 311615
	EMPLOYER: Poultry processing plant
	SAFETY & TRAINING: No policies, procedures, or trainings on how to safely work near the offal pit
	SCENE: Offal wastewater pit
	LOCATION: California
	EVENT TYPE: Drowning



REPORT#: 23CA002

REPORT DATE: July 25, 2024

Poultry Processing Production Worker Drowns in an Open Offal Wastewater Pit — California

SUMMARY

On May 6, 2023, a 66-year-old Hispanic male production worker at a poultry processing plant (the victim) drowned when he fell into an open offal wastewater pit. Offal is a mixture of water and chicken organs, blood, feathers, and other waste products. He was preparing to do preventative maintenance and clean the area surrounding the pit. A co-worker later found him inside the pit where he drowned. Even though hydrogen sulfide (H₂S) levels were not measured or monitored on the day of the incident, the gas is often present at poultry and meat processing facilities... [READ THE FULL REPORT](#) (p.3)

CONTRIBUTING FACTORS

- Failure to develop and implement a hydrogen sulfide (H₂S) safety program for the offal wastewater room
- No hazard assessment was conducted
- Missing and unsecured floor grates protecting the offal wastewater pit
- Damaged guardrails around the offal wastewater pit...[LEARN MORE](#) (p.7)

RECOMMENDATIONS:

California FACE (CA/FACE) investigators determined that, in order to prevent similar incidents, poultry processing plants with wastewater treatment operations should:

- Develop and implement policies, procedures, and inspections as part of a safety program to prevent workers from being overexposed to H₂S.
- Ensure offal pits are identified as permit required confined spaces and a confined space program is implemented.
- Ensure all pumps and equipment in the pit room remain in operation so there is wastewater flow through the offal pit.
- Ensure offal pits are guarded and covered...[LEARN MORE](#) (p.7)



CALIFORNIA

State **FACE** Program

Fatality Assessment & Control Evaluation

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Fatality Assessment and Control Evaluation (FACE) Program

This case report was developed to draw the attention of employers and employees to a serious safety hazard and is based on preliminary data only. This publication does not represent final determinations regarding the nature of the incident, cause of the injury, or fault of employer, employee, or any party involved.

This case report was developed by the California Fatality Assessment and Control Evaluation (FACE) Program. California FACE is a NIOSH-funded occupational fatality surveillance program with the goal of preventing fatal work injuries by studying the worker, the work environment, and the role of management, engineering, and behavioral changes in preventing future injuries. The FACE program is located within the Occupational Health Branch, California Department of Public Health.

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INTRODUCTION

On Saturday, May 6, 2023, at approximately 5:30 a.m., a 66-year-old Hispanic male poultry processing production worker (the victim) died after he fell into a 17' deep offal wastewater pit and drowned. The CA/FACE investigator received notification of this incident on May 9, 2023, from the weekly summary from the California Department of Industrial Relations Public Information Office. On August 16th, 2023, the CA/FACE investigator contacted management of the poultry processing facility where the incident occurred. A site inspection and interviews were conducted in person on September 8th, 2023. The Cal/OSHA, police, coroner, and fire department reports were received and reviewed.

EMPLOYER

The employer was a poultry processing company that employed about 1,200 workers. The company raised their own birds in the surrounding area and then sent them to the poultry processing facility where they are eviscerated and visually inspected. There were at least four workers onsite in the vicinity of the offal wastewater pit room at time of the incident.

WRITTEN SAFETY PROGRAMS and TRAINING

At the time of the incident, the employer had an Injury and Illness Prevention Program (IIPP), which is required for all employers in California. The employer did not have any policies or procedures to perform work in the offal wastewater pit room. Additionally, no H₂S monitoring/control or confined space entry procedures were developed or implemented.

Training was conducted in English, Spanish or Punjabi. The victim participated in several in-person safety training courses between August 2022 and April 2023, including brief sessions on basic first aid, heat illness prevention, bloodborne pathogens, machine training/forklift safety, emergency action plans, stress management/violence in the workplace, hearing protection, and industrial lift safety. There was no indication that these training courses covered practices and procedures specific to working in or near the offal wastewater pit, or confined space entry.

WORKER INFORMATION

The victim was a 66-year-old Hispanic male poultry processing production worker. According to the Cal/OSHA investigation report, he had been employed by the company for approximately two years at the time of the incident. His typical job duties included preventative maintenance and production work. According to the employer, he regularly volunteered for weekend shifts working with the pit attendant and performing cleaning (i.e., Pressure washing) activities. The victim's primary language was Spanish.

INCIDENT SCENE

The incident scene was an offal pit in the offal wastewater treatment area on the lower level of the facility (Exhibit 1). The pit dimensions were 14 ft wide x 8.6 ft long x 17 ft deep. On the day of the incident, the pumps were turned off and this caused an overflow. To remove the excess offal in the wastewater pit, a backhoe was

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brought in on a weekly basis, but it was not available on the morning of the incident. The victim's primary task that morning was to use a power washer to clean the floor of the wastewater offal pit room.

One week prior to the incident, the backhoe damaged the stainless steel guardrails surrounding the pit and they had not been repaired prior to the incident (Exhibit 2). There were no confined space warning signs on or around the pit. There were three newly installed trash pumps and one existing pump adjacent to the pit that was being used to process the offal wastewater.

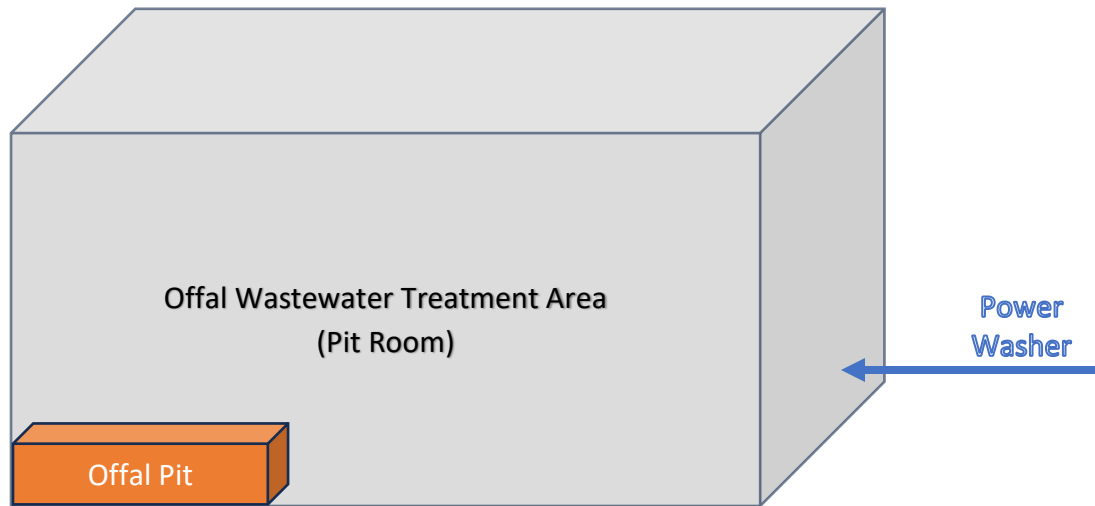


Exhibit 1. Illustration of the incident scene (Courtesy of the CA/FACE program).



Exhibit 2. One of the damaged guardrails (red arrow) surrounding the offal pit. Photo courtesy of the employer.



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WEATHER

The weather on the day and time of the incident was approximately 55 degrees Fahrenheit, with an average wind speed of about 9 mph [Weather Underground]. The weather was not a contributing factor in this incident.

INVESTIGATION

On the day of the incident, the superintendent arrived at the facility at 4:50 a.m. and began his rounds. He noticed water overflowing in the evisceration room, which is adjacent to the pit room. When he walked into the pit room, he saw the offal wastewater flowing over the sides of the pit onto the floor. According to the Cal/OSHA investigation, this had happened many times before. It was reported that when the offal reached a certain level, the pumps automatically turned on to lower the contents. On the day of the incident, the pump switch was turned off.

One of the co-workers stated that he and the victim started their shift at 5:00 a.m. The pit attendant (co-worker) went into the adjacent room to check the pressure valves and turn off all incoming water pumps that needed to be closed. According to a company representative, the company had been fined in the past due to effluent discharge. The victim and pit attendant were assigned to the wastewater treatment area to check pipe pressure, confirm there were no leaks, and use a power washer to clean the wastewater treatment area where offal drained from the upper levels of the facility. Sanitation occurred every night, but on weekends there was also preventative maintenance which included pressure washing walkways and deep cleaning.

While the pit attendant went to turn off the incoming water and turn on the trash pumps, the victim began the washdown process in the pit room. Since the incident was unwitnessed, video footage only showed the victim entering the offal wastewater treatment area. Approximately 40 seconds later, co-workers are seen looking for him. One of the co-workers notified the superintendent that the victim was missing and thought he may have fallen into the pit. Video footage did not show how the victim ended up head down in the pit. Exhibit 3 shows the offal wastewater pit on the day of the incident. The victim likely fell in where the red arrow indicates. He was likely kneeling in front of the East (back) wall facing the pit where the railing was broken. When the victim fell in, the grate (bottom right of Exhibit 3) was missing. It is known that H₂S gas can be generated as a byproduct in wastewater pits at poultry and meat processing facilities.

According to the police report, police officers were dispatched to the scene at 5:43 a.m. Once police arrived at the site, officers observed the lifeless body of the victim completely submerged with only the toes of his boots sticking out of the offal. Police requested a rescue dive team to enter the pit at 5:46 a.m. and soon after they determined it would be a body recovery. The pumps were turned on to decrease the waste and make it easier to recover the body. The victim was pronounced dead at 7:53 a.m.

According to the Cal/OSHA investigation, police, and fire department reports, on the day of the incident there was a missing floor grating on the east side of the pit. Additionally, there were damaged guardrails on three sides of the pit (Exhibit 3). An employee stated that it was possible that the backhoe used to empty the pit weekly hit the guardrail and bent it.

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**Exhibit 3. The offal wastewater pit on the day of the incident.
Arrow indicates where victim likely fell in. Photo courtesy of the employer.**

The employer's representative indicated that the company did not have any policies or procedures on how to work in the pit room and they did not conduct inspections of the room. An employee stated that they did not have to wear fall protection when working around the pit.

CAUSE OF DEATH

According to the county coroner, the cause of death was drowning.

CONTRIBUTING FACTORS

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in the injury or fatality. CA/FACE investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Failure to develop and implement a hydrogen sulfide (H₂S) safety program for the offal wastewater room
- No hazard assessment was conducted, including identifying the pit as a permit-required confined space. There was no monitoring data, control measures, policies, procedures, or worker training for working in such an environment
- Missing and unsecured floor grates protecting the offal wastewater pit
- Damaged guardrails around the offal wastewater pit

RECOMMENDATIONS/DISCUSSION

The CA/FACE investigators determined that, in order to prevent similar incidents, poultry processing facilities should:



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Recommendation #1: Develop and implement policies, procedures, and inspection as part of a safety program to protect employees from being overexposed to airborne contaminants such as hydrogen sulfide (H₂S).

Discussion: The employer did not have written standard operating procedures or training for workers in the pit room and did not conduct periodic inspections. Although H₂S was not measured or monitored (including on the day of the incident), this gas was likely present near the pit. H₂S can be generated as a byproduct in offal wastewater pits at poultry processing plants. This can occur as a result of prolonged anaerobic digestion of chicken organs, blood, feathers, and other waste products. In this incident, the waste in the offal pit had become stagnant because the pumps were off. This likely led to the generation of hazardous levels of H₂S at the surface of the waste. At high concentration (e.g., more than 500ppm of H₂S), it may result in death within minutes. During maintenance tasks, the victim may have been kneeling close to the surface of the offal pit where he was exposed to concentrations of H₂S that resulted in rapid loss of consciousness that caused him to fall into the pit.

Gas monitoring is always recommended when working around toxic gases such as H₂S. A site-specific H₂S safety program should consist of engineering controls (ventilation), worker training, PPE, gas monitoring, and safe work practices. Since exposure to H₂S was possible in the offal wastewater pit room, air monitoring prior to, and at regular times during any work activity in the area is highly recommended. An H₂S detection and alarm system can be installed and properly maintained along with associated procedures based on site-specific detection and alarm programs. The employer should also supply personal H₂S gas monitors and establish a policy requiring employees to wear them while in the offal wastewater pit room. The personal gas monitor identifies potentially hazardous environments and warns the user to leave the work area before the level of H₂S level reaches a health hazard. If the employer had a H₂S monitoring program and provided a personal gas monitor to the victim, this may have alerted him that potentially dangerous levels were present in and around the offal pit. He likely would have immediately left the work area and not continued his maintenance tasks, thereby preventing this incident.

Recommendation # 2: Ensure offal wastewater pits are identified as permit required confined spaces, and a permit confined space program is implemented.

Discussion: Permit required confined spaces are spaces that meet all three of the requirements of confined spaces and have one or more of the following characteristics: (1) Contains or has a potential to contain a hazardous atmosphere (2) Contains a material that has the potential for engulfing an entrant (3) Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section (4) Contains any other recognized serious safety or health hazard. Offal wastewater pits have the potential to contain a hazardous atmosphere due to the presence of H₂S.

The offal wastewater pit is a permit required confined space and if entrance to the pit is necessary, employees must follow established permit required confined space entry procedures and follow fall/restraint protection if covers are removed. Ideally, an offal wastewater pit should be ventilated, and the atmosphere within the pit

should be tested prior to entry and monitored continuously while work is being performed. Warning signs to alert workers of the hazards associated with wastewater pits should be posted at all entrances. Anyone entering or breaking the plane of an offal wastewater pit should wear fall/restraint protection which is attached to a fixed external anchor point. These procedures also include the presence of a standby person stationed outside the pit. A viable rescue plan must be established, discussed, and understood by the workers before entry into the pit. Personnel attempting rescue operations within a permit required confined space should be properly equipped and trained in the use of the equipment and methods required for rescue. The employer should therefore develop and implement a permit required confined space entry program as outlined in the regulations applicable to their jurisdiction. Cal/OSHA confined spaces standard is listed under 5157 Permit-Required Confined Spaces and federal OSHA is under 29 CFR 1910.146. Although the employer had confined space training records, there were no written policies or procedures to perform work in the offal wastewater pit. If the employer had a confined space program for workers performing maintenance in the offal wastewater pit, the victim may have been alerted by warning signs to the dangers of H₂S, fall protection provided, or adequate personal protective equipment (i.e., respirator) used.

Recommendation #3: Ensure that all pumps and equipment remain in operation so there is wastewater flow through the offal pit.

Discussion: The pumps in the wastewater offal pit were controlled by a switch which was in an adjacent room. The pump switches had repeatedly been turned off which impacted the gauge sensor process that controls the levels of the pit contents, resulting in the wastewater accumulating. As a result, a backhoe had been used to remove the liquid and solid waste in the offal pit. The relatively stagnant waste in the pit may have created the conditions for H₂S gas generation. If the pumps had remained operational and the waste had flowed normally through the pit, H₂S may not have accumulated in a hazardous concentration.

Recommendation #4: Ensure open offal pits are guarded and covered.

Discussion: At the time of the incident, photos showed that the guardrails protecting the open offal pit were damaged, and they did not completely enclose the pit. It was reported that the company's maintenance crew constructed the stainless steel guardrails and testing was not conducted to determine the applied live load limits. It is crucial that guardrails are designed, built, installed, tested, and maintained according to federal, state, and/or local regulations applicable to their jurisdiction. Cal/OSHA regulation is [§3209. Standard Guardrails](#) and federal OSHA requirement is [29 CFR 1910.29 Fall protection systems](#).

On the day of the incident, a grate had been removed. The photo below (Exhibit 4) was taken on the day of the CA/FACE investigator's visit, and a new guardrail system and floor covering/grate had already been installed around the offal pit. According to federal OSHA requirement 29 CFR 1910.28 Walking-Working Surfaces (b) (3) (v) (A) when a hole (i.e., the offal wastewater pit) is not in use, the employer must ensure the cover is closed or a removable guardrail system is provided on the exposed sides. If materials are passing through the hole or work is being done in the pit, one feasible alternative is to have a hinged floor cover, which helps ensure that the cover will be replaced when work is done. On the day of the incident, if the pit

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had been guarded on all open sides and a hinged floor hole cover was used, it may have been less likely the victim would have fallen into the pit and died.



Exhibit 4. The new guardrails and floor grates that were installed after the incident.
Photo courtesy of the CA/FACE program.

DISCLAIMER

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REFERENCES:

California Code of Regulations, Title 8, Subchapter 7. General Industry Safety Orders Group 1. General Physical Conditions and Structures Orders §3203. Injury and Illness Prevention Program (a) (4) & (6).

California Code of Regulations, Title 8, Subchapter 7. General Industry Safety Orders Group 1. General Physical Conditions and Structures Orders Article 2. Standard Specifications §3212. Floor Openings, Floor Holes, Skylights and Roofs (a) (1) & (b).

California Code of Regulations, Title 8, General Industry Safety Orders Group 1. General Physical Conditions and Structures Orders Article 2. Standard Specifications §3209. Standard Guardrails (b).

California Code of Regulations, Title 8, Construction Safety Orders. Article 16. Standard Railings §1620. Design and Construction of Railings (c).



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California Code of Regulations, Title 8, General Industry Safety Orders Group 16. Control of Hazardous Substances Article 108. Confined Spaces §5157. Permit-Required Confined Spaces.

US Poultry and Egg Association. Woodruff & Howe Environmental Engineering. Toxic Release Inventory (TRI) Reporting Guidance for Poultry Processing for Hydrogen Sulfide (H₂S), Revision 1. March 15, 2017.

[Hydrogen Sulfide in Workplaces](#)

[OSHA Fatal Facts Hydrogen Sulfide Release, No. 18 2023](#)

INVESTIGATOR INFORMATION

This investigation was conducted and authored by David Moore, MPH, CIH and Ingrid Zubieta, MPH, CIH, CSP, FACE Fatality Investigators/Consultants. Additional contributions to the report were provided by Robert Harrison, MD, MPH, CDPH FACE Project Officer; Laura Styles, MPH, FACE Research Scientist; and Glenn Shor, PhD, Cal/OSHA CFOI program.