

BULLETIN

NO.: 23-040
DATE: March 7, 2023
TO: All Personnel
FROM: Robert Logan, Deputy Fire Chief, Employee Services
SUBJECT: Green Sheet - Poway Rink Incident - Near Miss from a large electrical arc

On December 25, 2022, at approximately 1618 hours, resources were dispatched to a commercial structure fire at the Rinks Poway Ice, 12455 Kerran St, North of Scripps Poway Pkwy, in the business park in Poway, California. Crews investigated a report of smoke in an electrical room. During the investigation, fire suppression personnel were near an electrical panel when a large electrical arc occurred. Fire personnel sustained no injuries and were able to exit the building safely. As a result of the large electrical arc and personnel being near and inside the electrical room a mayday was activated. A personnel accountability report (PAR) was conducted in which all crews were accounted for.

I have attached the information summary report - Green Sheet.

- **Refer to SDFD Operations Manual**
 - **SI 10 Section 04 Safety Communications**
 - **Serious Incident Review Team (SIRT)**

Any questions should be directed through the chain of command.

Don't hesitate to contact the Health and Safety Office at SDFDHealth&Safety@san Diego.gov with comments or areas of improvement. For all other questions, contact HSO/Battalion Chief David Picone at 619.533.4466 or dpicone@san Diego.gov



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Informational Summary Report of Serious or Near Serious Injuries, Illnesses and Accidents



GREEN SHEET

Poway Fire Department "Rink Incident"

December 25, 2022

Incident Number - PW22004875
12455 Kerran St. Poway, CA 92064

SUMMARY

On December 25, 2022, at approximately 1618 hours, resources were dispatched to a commercial structure fire at the Rinks Poway Ice, 12455 Kerran St, North of Scripps Poway Pkwy, in the business park in Poway, California. Crews investigated a report of smoke in an electrical room. During the investigation, fire suppression personnel were near an electrical panel when a large electrical arc occurred. Fire personnel sustained no injuries and were able to exit the building safely. As a result of the large electrical arc and personnel being near and inside the electrical room a mayday was activated. A personnel accountability report (PAR) was conducted in which all crews were accounted for.

CONDITIONS

Weather:

- Temperature: 66° Fahrenheit
- Relative Humidity: 26%
- Winds: SE @ 6 mph
- Visibility: Clear

Fuel Type: n/a

Road Conditions:

- Clear with light traffic

Topography:

- Industrial park

Fire Behavior:

- No fire was noted
- The electrical room (room of origin) charged with smoke upon arrival of first in crew
- Three (3) electrical arc flashes occurred

Make/Model of Equipment:

- Eaton load centers and safety switches

Structural Features:

- Industrial - Warehouse/Distribution (Multi-Tenant)
- Property Size - 114,000SF
- Lot Size - 6.69 Acres
- Building Class - B
- Year Built - 1989

SEQUENCE OF EVENTS

Rink Incident Unit Assignments

Rink IC:

- Poway Battalion 91 (POW B91)

Fire Attack:

- Poway Engine 91 (POW E91), Poway Engine 93 (POW E93), Poway Medic 91 (POW M91)

Ventilation/Lighting:

- Poway Truck 93 (POW T93)

Exposure Group:

- San Diego Engine 42 (SND E42)

RIC / Accountability / Water Supply:

- San Diego Engine 37 (SND E37)

POW B91 arrived first to the scene with reports of smoke coming from the electrical room per the reporting party “due to loss of electricity.” Prior to the arrival of fire crews, the reporting party indicated the building was evacuated, and audible alarms were heard.

16:22 - POW B91 arrived on the scene and transmitted his initial size up.

- “Battalion 91 at the scene of a large one (1) story commercial structure. Nothing showing, investigating, establishing Rink IC.”
 - POW B91 advised that crews on the scene would work in an offensive strategy.
- Upon the arrival of POW B91, he was approached by building representatives stating that the building was evacuated and smoke was emanating from the electrical room.

16:23 - POW E91 arrived at the scene.

- POW E91 was assigned to Fire Attack with the direction to investigate the conditions of the electrical room.
- POW E91, all three crew members, went to the electrical room in question to investigate in full protective safety gear with SCBA in the standby position.
 - Upon arrival, the crew found one of the two entry doors used to access the room ajar.
 - Exterior smoke conditions were light/wispy; however, smoke conditions inside the room were down to the floor.
 - POW E91 crew entered the electrical room with full PPE and SCBA.
 - No heat was noted by the officer utilizing a Thermal Imaging Camera (TIC).
 - The Company officer instructed crewmembers to secure all electrical breakers in the room.
 - POW E91 advised Rink IC that all electrical power was secured at the panel.

16:24 - SND E37 arrived at the scene.

- Initially staged at a fire hydrant, SND E37 was tasked with securing a water source and laying a supply line into POW E91.
- SND E37 was then assigned RIC and Accountability, staged on the Alpha side of the structure.

16:25 - POW E93 arrived at the scene.

- POW E93 was assigned to Fire Attack.
- POW E93 secured a charged 1.75-inch attack line, dry chemical, and CO2 extinguisher and joined POW E91 outside the electrical room.

16:26 - POW M91, POW T93, and SND E42 arrived at the scene.

- POW M91 was assigned to assist Fire Attack.
- POW T93 was assigned to Ventilation.
 - Tasked with laddering the Alpha/Delta corner of the structure and investigating (HVAC units).
 - POW T93 utilized its aerial ladder to access the roof and investigate.
 - No hazards, heat, or exposures were noted.
 - POW T93 was then re-assigned to locate and check the building's fire alarm panel and attempt a "reset."
 - ***The building's alarm panel was located inside the involved electrical room.
 - POW T93 crew members stowed their aerial ladder while the company officer proceeded to the electrical room to check the building's electrical panel.
- SND E42 was assigned to Exposures.
 - They were tasked with performing a 360 of the structure, securing utilities to the building, and checking the interior of the main building for any exposure concerns.
 - SND E42 proceeded around the structure via the Delta side; unable to drive the exterior in its entirety, SND E42 turned back around and positioned on the Charlie side of the structure.
 - SND E42 was able to secure only the gas supply to the structure, made the notification to the IC, and proceeded to the interior (4-person crew) to check for exposure concerns and any extension into the main building.
 - SND E42 split the crew (2 members each) and performed a right and left-handed search of the interior of the building.
 - A strong odor of electrical and light smoke was encountered inside the building, however, no exposure issues were noted.
 - SND E42 came back together, as a 4 person crew, near the Alpha side (interior) of the structure, where they believed they were now on the back side of the involved electrical room.

16:27 - SND B7 arrived at the scene.

- SND B7 arrived at the scene, performed face-to-face communication with Rink IC, and was initially assigned to help with Tablet Command and resource management.

16:31 - SND T40 arrived at the scene and staged. SND T40 was never given an assignment and was released at 16:50.

16:36 - Rink IC requested SDGE electric side.

Note: An SDGE Qualified Electrical Worker (QEW) was already responding to the incident location prior to the initial 911 dispatch, requested by the business owner due to electrical issues at the incident location).

16:50-16:55 - Electrical arc flashes occurred within the building's electrical room.

- “Arc flash” - This light and heat are created due to low impedance connections in the electrical system. It allows the movement of unwanted electric discharge through the air from one voltage phase to another or the ground.
- A total of three arc flashes occurred over one minute.
- At the time of the first arc, the company officer from POW T93 was inside the electrical room with other crew members just outside the access door.
 - POW T93’s company officer immediately exited the electrical room prior to the second and third electrical arc flashes.
- Upon hearing and seeing the first electrical arc flash, POW E93’s company officer, who was outside of the building, immediately called a Mayday due to a drastic change in conditions and his knowledge that crew(s) were working in and around the electrical room.
 - The Mayday was initiated utilizing a collar mic on the incident’s TAC channel.
 - Hearing the Mayday call, Rink IC cleared the channel of unnecessary radio traffic, acknowledged the Mayday, and initiated a personnel accountability report (PAR) for each on-scene crew.
 - The PAR was completed, the Mayday was canceled, and all company officers were requested to meet at the ICP.

16:55 - SDGE QEW arrived at the scene.

16:56 - Electrical power was isolated at the transformer box by the SDGE QEW. Electrical power was secure to the entire building.

17:12 - IC advised Metro to “stop the Incident Timer; power has been secured by SDGE, no active fire, no smoke, crews checking for extension. Releasing SND B7, SND E42, SND E37, and all other assigned units to remain at the scene.”

- An After Action Review was performed at the scene by POW B91 before releasing Poway units.

17:58 - IC advised Metro that the “building was turned over to the building owner, all units to go available, Rink IC terminated.”

INJURIES/DAMAGES

One firefighter suffered minor tinnitus (ringing in the ears) due to the electrical arc blast.

APPLICABLE SAFETY POLICIES

- Poway Fire Department Manual of Operations - Chapter 15 Subject 4 Communications
 - Emergency Traffic Declaration
 - MAYDAY Declaration
- Poway Fire Department Manual of Operations – Chapter 15 Subject 40 Fireground Accountability
 - Accountability in an IDLH
- Poway Fire Department Manual of Operations – Chapter 15 Subject 9 Personal Protective Equipment - PPE
 - Appropriate PPE levels in IDLH
 - PPE Levels for electrical emergencies
- *Note: Outside agencies should review their applicable operations policies shown above*

SAFETY ISSUES FOR REVIEW

- When an incident involves the electrical equipment within the electrical room, rather than a Class A or Class B fire within the electrical room, treat the incident as you would an underground electrical vault.
 - Stay out and maintain a minimum distance of 50 feet, protecting exposures, until an SDGE QEW arrives on the scene and secures the electricity.
- Utilizing dry chemical extinguishers for electrical fires with high voltage (>110v/220v) is NOT RECOMMENDED.
 - The chemical discharged by the extinguisher can conduct electricity.
 - SDGE QEW recommends that all personnel stay away from the electricity source and protect exposures until it is certain that the electricity is secured.
- Consider reducing the number of firefighters needed inside an IDLH to what is absolutely necessary.
- Do not spot vehicles/apparatus' near transformer boxes or other sources of electricity when responding to electrical hazards/incidents.

INCIDENTAL ISSUES/LESSONS LEARNED

- Mayday on the TAC channel was never transmitted to Metro (ECDC) on the Command channel.
 - Poway Fire Department Manual of Operations - Chapter 15 Subject 4 Communications
- Electrical was thought to be secured.
 - All breakers were switched to the off position; however, the electric meters continued to run, indicating that power was still being produced and not fully secured.
- Be selective with descriptive words, such as “isolated” or “secured,” when relaying information to the Incident Commander (IC).
 - An IC would have reasonably thought that the power to the electrical room had been disconnected and the electrical hazard was no longer present.
- If a solar system is identified, it must be relayed to and confirmed by the IC and secured at each solar disconnect (see Image #4).

RECOMMENDATIONS

- Be selective with descriptive words, such as “isolated” or “secured” when relaying information to the Incident Commander (IC).
 - An IC would reasonably think that power to the electrical room had been disconnected and the electrical hazard was no longer present.
- Create and maintain pre-fire plans for target hazards / large commercial buildings.
 - Allow surrounding agencies to access these pre-fire plans.
- Review and edit Department policies at least every 2 years for accuracy and content, or anytime significant incidents or changes occur. Most policies reviewed were greater than six years old.
- Poway’s Manual of operations Chapter 15 Subject 9 - PPE covers PPE levels for most incidents but nothing specific for electrical emergencies.
 - Chapter 15 subject 7 - Fireground procedures (Revised in 1992) needs to be updated and contain more content.
 - A policy specific to electrical emergencies should be authored and adopted by the department..
- A current policy on Mayday, emergency traffic and priority traffic was not identified. A policy, specific to these topics, should be in place and trained on at least every other year.
- Introduce annual or semi-annual electrical training department wide using our SDG&E partners.

- Create and adopt a standardized roof report that the roof division/ventilation group communicates to the IC.
- If Emergency Traffic, Priority Traffic, or a Mayday is proclaimed, ensure pertinent information is communicated to the IC so they may develop a plan to mitigate the issue.

This review was conducted by the San Diego County Health and Safety Section's Serious Incident Review Team (SIRT).

- Ted Porter: SIRT Chair - Captain, Coronado Fire Department
- Ron Quinlan: Team Lead - Battalion Chief, San Miguel Fire & Rescue
- Travis DeBoer: Lead Investigator - Captain, San Diego Fire & Rescue Department
- Art Holcomb: Safety and Training - Division Chief, Escondido Fire Department
- Pat Carroll: Document Specialist - Captain, San Miguel Fire & Rescue
- Daryll Pina: Tech Specialist - Fire Coordinator, SDGE
- Steven Ricci: Senior Advisor, SDGE

PHOTOS/SITE DIAGRAMS/MAPS

- [3rd Arc Flash](#)
 - Video of the last (3rd of three total) arc flash on the Rink Incident

Image 1 - Aerial Overview Map

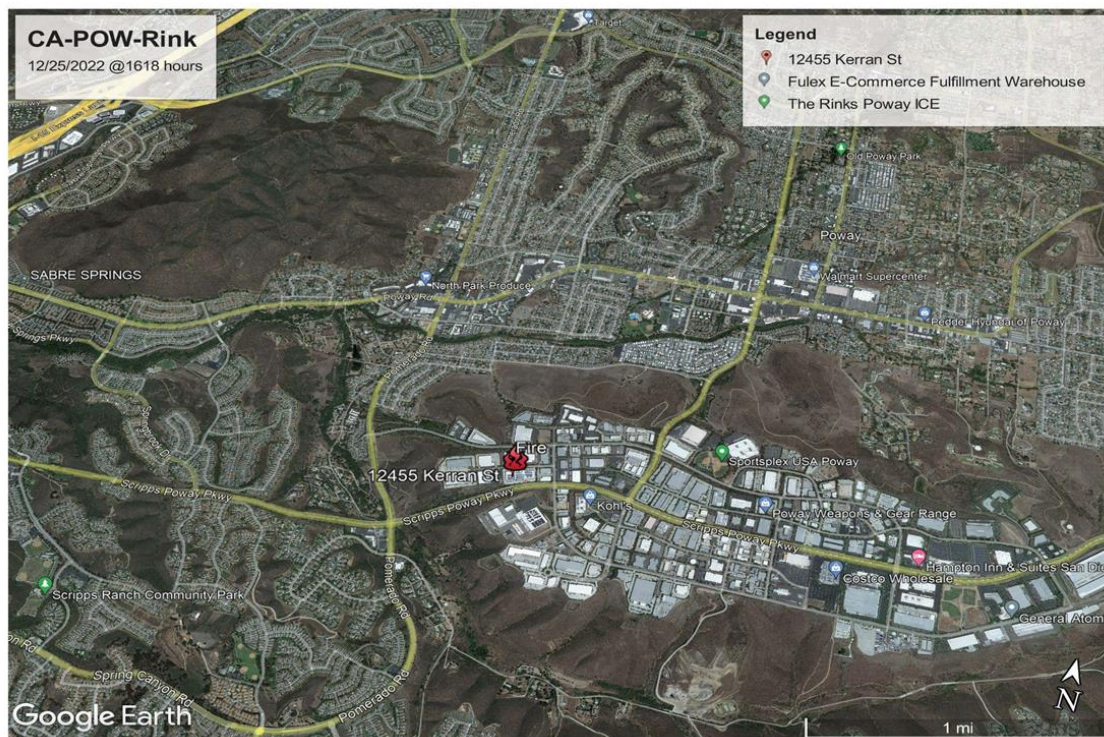


Image 2 - Apparatus Placement at Scene

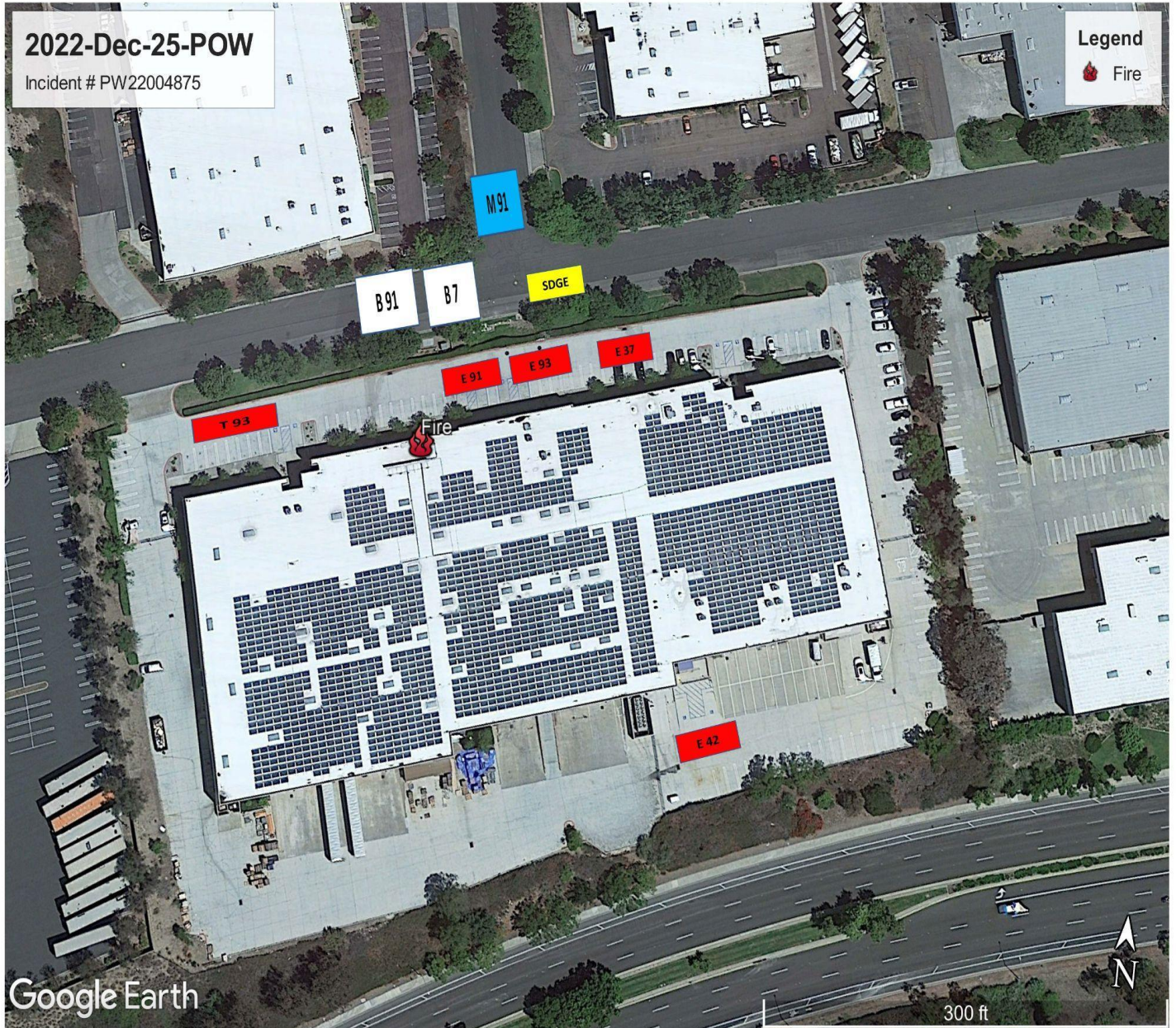


Image 3 - Electrical Room Entrance (Alpha Side of Structure)



Image 4 - Electrical Room Entrances with Solar (PV) Meters and Shut Offs



Image 5 - Solar (PV) Meter



Image 6 - Solar (PV) Disconnect



Image 7 - Electrical Room (Interior), Damaged Electrical Panel



Image 8 - Fire Alarm Panel (Located Inside Electrical Room)

