Rapid Lesson Sharing

Event Type: Potential CO Poisoning from ICP Generators

Date: September 1, 2024

Location: Park Fire
California

The Story and Lessons from this Potential CO Poisoning Incident and the Location of Generators at ICP

The Park Fire Incident Command Post (ICP) was set up in a lot south of Chester, California. This location was near a lake in an open gravel pit type area with no trees. (They had been taken out by the 2021 Dixie Fire.)

The ICP was a new build—from the ground up—for the Incident Management Team. Consequently, it included a traditional setup by Facilities. The generators were placed within proximity to the ICP's trailers by the contractor.

Due to the distance from the previous ICP, no Safety Officer was available during this ICP's initial set-up.

Possible Carbon Monoxide Entering Trailers and Yurts

On August 31, there was a discussion with a fellow Safety Officer by the Team Safety Officers after a planning meeting about the generator placement and possible carbon monoxide (CO) entering the trailers and yurts. Earlier in the day, both Team Safety Officers also discussed the amount of exhaust that was being smelled in and about the ICP's "Main Street."

- Due to the road system and ease of fueling, many generators were placed upwind of ICP's "Main Street".
- Most generators are located within 10 feet of ICP trailers.
- Some generators were placed in proximity to each other.

This image shows the distance between the generators and the ICP "Main Street", with the generator on the left immediately adjacent to a trailer.

A Person May Be Experiencing CO Poisoning

On September 1, Safety and Medical were asked to come to a trailer to evaluate a person who may be experiencing CO poisoning. This trailer happened to be the one located the closest to the two generators that were placed together.

This person was evaluated by a paramedic and determined to have a high level of CO present after monitoring with a RAD 57 (a multiwavelength noninvasive pulse carbon monoxide oximeter that measures carboxyhemoglobin in the blood from CO inhalation without requiring a blood draw).

However, these readings were way above anyone else in the trailer who were also checked at the same time. After further discussion, it was determined that the person had some underlying health issues that would make their CO readings very high.

The local fire department was brought in to perform CO readings in random trailers and yurts, as well as outside these structures. To ensure accurate readings, they were implemented in the evening when the winds had died down. According to the fire department's equipment, all their readings were within normal ranges.

Even prior to this, it was determined by IMT Safety Officers that the generators must be moved farther away and preferably downwind of camp.

Three Key Options

After a discussion with Logistics, Facilities and others, three key options were discussed.

A. Move generators to downwind side of the trailer road.

This option failed because there was no access to be able to fuel and maintain generators, as well as a lack of required power cord length to cover this additional distance.

B. Move generators across road from "Main Street", approximately 50 feet from trailer.

This option failed due to lack of cord capability to reach the generator.

C. Move generators approximately 30 feet from the trailers to the edge of road on same side of trailer.

Due to power supply cord lengths, this was the only available option.

Lessons

In summary, after much research and many discussions, the following lessons were highlighted.

1. The contract which provides generator equipment does not specify the length of power cords that must be provided, just that they must be able to hook-up to a generator. This was vetted by on-scene VIPR (Virtual Incident Procurement) personnel. There needs to be a push to the contracting folks to put something in the contract about length of power supply cords: Recommend 100 feet for adequate distance for mixing with air.

2. From this point forward, when setting up ICP, Logistics on this IMT will start with generator placement before laying out the rest of the camp.

3. There needs to be an avenue for Safety Officers and Medical Unit Leaders for ordering monitoring equipment to get a longer view of the accumulation of CO. The local fire department equipment is only a snapshot of the current atmosphere, thereby not showing true data for accumulation over time.

4. The distance between generators and trailers and yurts needs to be specified in contracts that provide the electrical equipment—to ensure that what is delivered and installed can be used safely.

This RLS was submitted by:

Incident Overhead

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