

Author

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Purpose

Mark van der Feyst observes “the biggest hazard encountered will be the fuel load inside the garage. Seeing as these are often storage facilities for homeowners, firefighters can expect to find garages that are packed with a high fuel load...that can contribute to a quick fire spread and heavy involvement” (2022). The extent of the hazard presented in a residential context also relates to whether the garage is detached or attached to the residence.

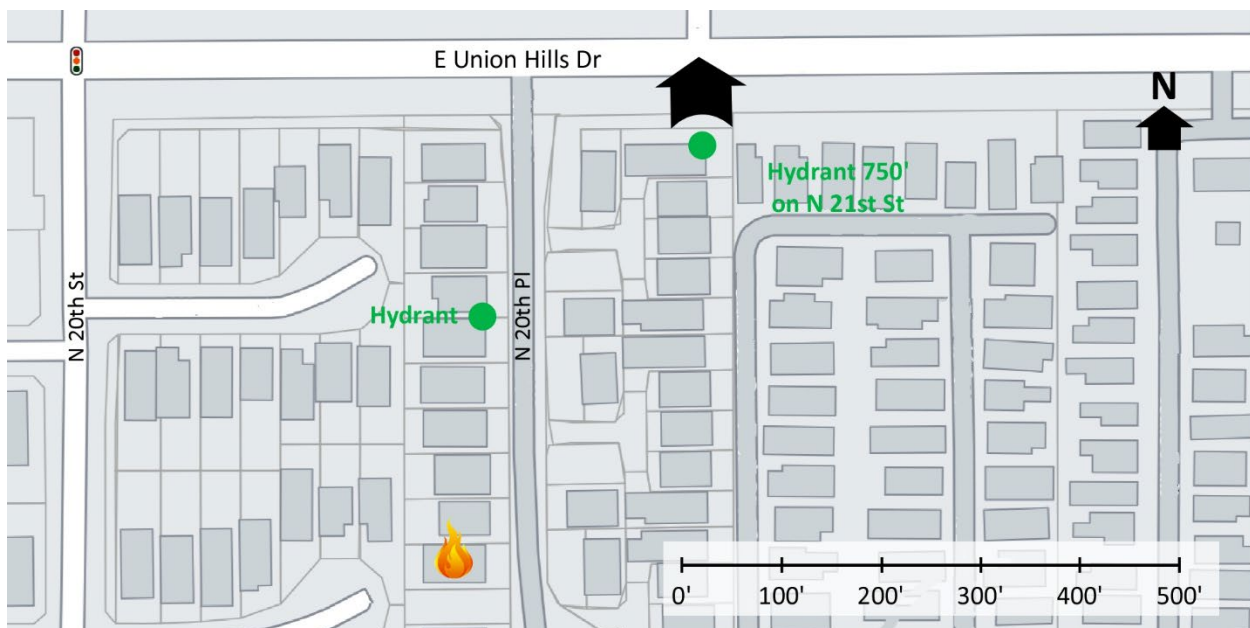
Learning Outcomes

Firefighters and officers perform an effective size-up; select an appropriate strategy, and implement tactics based on the strategic decision-making model.

Conducting the Drill

This incident involved an explosion and fire in an attached garage at 18416 N 20th Place in Phoenix, Arizona on June 20, 2022, at 10:50 (LLN Arizona, 2022). Review the map and photos (Figures 1-5) to gain an understanding of area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2023a). [map 18416 N 20th Place, Phoenix, AZ]. <https://bit.ly/3DIAg54>.

The closest hydrant is on North 20th Place in the direction of travel. With a second hydrant north of East Union Hills Drive on North 21st Street as illustrated in Figure 1.

Figure 2. Aerial View



Note: Adapted from Google. (2023b). [aerial view 18416 N 20th Place, Phoenix, AZ]. <http://bit.ly/3jtef36>.

Figure 3. Alpha/Delta Corner



Note: Adapted from Realtor.com. (2023a). 18416 N 20th Pl, Phoenix, AZ 85022. <https://bit.ly/3wTd2oU>.

Figure 4. Side Alpha



Note: Adapted from Realtor.com. (2023b). 18416 N 20th Pl, Phoenix, AZ 85022. <https://bit.ly/3Rz0H2K>.

Figure 5. Side Charlie



Note: Adapted from Realtor.com. (2023c). 18416 N 20th Pl, Phoenix, AZ 85022. <https://bit.ly/3kZ3wOg>.

You have been dispatched to 18416 N 20th Place for an explosion and fire in an attached residential garage. You are the company officer or AIC of the first arriving engine and have your company's typical staffing. Temperature is 96° F with wind from the south at 6 mph (Weather Underground, 2022).

1. What critical factors would you consider when dispatched and during response and what conversations would you have with your crew while responding?

While responding you hear a command officer and an engine, with typical staffing for your agency go enroute. An advanced life support (ALS) ambulance with a staffing level of two is also responding. The second engine and ALS ambulance will arrive approximately six minutes after you followed by the command officer. All other units dispatched on the first alarm will arrive after the command officer. You are arriving from the north, on North 20th Place. Watch the first 00:15 of the [incident video](#) (LLN Arizona, 2022) and examine Figure 6 illustrating conditions on arrival.

Figure 6. Conditions on Arrival



Note: Adapted from LLN Arizona. (2022). Pre arrival: garage door flung across street after Phoenix house explosion - June 20, 2022 [video]. <https://bit.ly/3JB1H4u>.

2. State your initial radio report (IRR) exactly as you would transmit it to dispatch.

3. What specific actions would you take (as the company officer) immediately upon arrival and exiting the apparatus and what task orders you would give your crew?

Watch the [incident video](#) (LLN Arizona, 2022) from 00:15 to 00:45 before answering the next two questions.

4. Would you change the action you are taking or modify the assignments given to your crew? If so, what task orders would you provide?

5. State your update report exactly as you would transmit it to dispatch.

Watch the [incident video](#) (LLN Arizona, 2022) from 00:45 to 02:15 before answering the next two questions.

6. State the tactical assignment you would give the next arriving engine exactly as you would transmit it.

7. State your conditions, actions, and needs (CAN) report that you would provide to the first arriving command officer as part of command transfer to IC #2?

8. Did you consider the violence of the explosion that threw the garage door across the street as a critical fireground factor that may have compromised structural integrity or otherwise influenced the hazards presented by this incident? Why or why not? How might an explosion such as this influence incident conditions?

Watch the [incident video](#) (LLN Arizona, 2022) from 04:00 to 04:30.

9. How did incident conditions change during this timeframe? If you were a company officer operating at this incident (after transfer of command to IC #2) and observed this change in conditions, what action would you take? Why?

10. Under what circumstances would it be acceptable to make entry into a hose with a fire in an attached garage when you do not have an on-deck company (two-in/two out)? Would it make a difference if the house did not have an immediately dangerous to life and health (IDLH) atmosphere (e.g., door between the garage and house is closed)? Why or why not?

Additional Learning: In this incident, a hybrid vehicle was in the garage (along with several propane cylinders). Available information does not identify if either of these potential hazards impacted incident outcome. However, lithium-ion batteries present significant potential hazards to building occupants and firefighters in the event of thermal runaway. Listen to Underwriters Laboratories Fire Safety Research Institute's Adam Barowy discuss lithium-ion battery fires on the [B Shifter Podcast](#) (February, 2013).

To learn more about the impact of this hazard, complete the Underwriters Laboratories Fire Safety Research Institute on-line course [The Impact of Batteries on Fire Dynamics: Examining the Fire Safety Hazards of Lithium-ion Battery Powered e-Mobility Devices in Homes](#) (UL FSRI, 2023).

References

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