

BATTERY ELECTRIC VEHICLE (BEV) FIRE WORKSHEET

Life Safety

- Wear full PPE.
- Rescue/Check for victims.
- Chock wheels.
- Evacuate / Shelter In Place.

Attack the fire like a normal vehicle fire

- Most vehicle fires involving electric vehicles do NOT involve the batteries.
- Assume all vehicles are a Hybrid or Electric until shown otherwise

***Once determined that the lithium-ion batteries are involved
TACTICAL PAUSE: 2 tactical considerations***

Consult Manufacturer's Emergency Response Guide (ERG) for vehicle specific guidelines and recommendations (*this is critical due to constant changes in technology*):



NFPA Emergency Response Guides

Defensive: Let it burn!

- Evacuate and establish an isolation distance of 330 feet in all directions.
- Notify dispatch of lithium-ion battery involvement.
- Keep all personnel and civilians out of the toxic smoke/plume.
- Protect exposures.
 - Consider time-of-day, weather, proximity, etc.
 - Consider knocking down plumes to reduce exposure potential.
 - Many toxic gasses such as HF are water soluble and can be knocked down into solution.
 - Consider moving the vehicle, if possible.
 - Coordinate efforts with CHP, Tow Company, Technical Rescue, Hazmat, etc.

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Offensive: Stabilize Incident

- Ensure crew members are wearing full PPE including SCBA.
- Notify dispatch of lithium-ion battery involvement.
- Secure a water supply or water shuttling operation.
- Consider tilting the vehicle to gain access to the underside of the vehicle for water application.
 - This will require training.
 - Lifting points/options must be referenced.
- It is not recommended to force access into the high voltage battery.
 - If batteries are exposed, direct water on to batteries.
- Observe the battery and watch for evidence of thermal runaway.
 - Observation should take a minimum of 45 minutes to ensure the incident is stabilized.
- Towing
 - Use a flat bed tow
 - Regenerative braking can send electricity back to the damaged batteries from the spinning wheels.
 - Place the vehicle 50 feet away from all exposures at the yard.

Other considerations

- **Garage Fires**
 - Approach from an angle to avoid possible door explosions / over pressurization.
 - If no active fire, be concerned with possible explosive gasses.
- **Warehouse Fires**
 - Careful cutting into rollup doors without knowing what's inside.
- **Underground Parking**
 - Initial identification of BEV will be very difficult. Follow department SOP for underground vehicle fires.
 - Significant toxic atmosphere hazard.
 - Explosive atmosphere is less likely due to available space.
 - Allow the vehicle to burn.
 - If sprinklered, this may take several hours with less potential structural damage.
 - If not sprinklered, significant structural damage is likely.
 - Perform thorough PPE and personal decontamination procedures.