



CHICAGO FIRE DEPARTMENT BUREAU OF OPERATIONS



Operations Order: 25-003
March 26, 2025

SUBJECT: UNDER-VEHICLE NOZZLE FOR ELECTRIC VEHICLE (EV) FIRES

I. PURPOSE

This Order:

- A. Defines the Under-Vehicle Nozzle, to be deployed for Electric Vehicle (EV) Fires;
- B. Establishes the issuance of the Under-Vehicle Nozzle;
- C. Establishes guidelines for the appropriate use, care, storage, and replacement of the Under-Vehicle Nozzle; and
- D. Becomes effective immediately.

II. POLICY

It is the policy of the Chicago Fire Department (CFD) to provide the necessary tools to assist when operating safely at the scene of an incident. The Under-Vehicle Nozzle is being distributed to designated Engine Companies and other Department response vehicles to assist in the mitigation of EV fires.

III. DEFINITIONS

- A. **Under-Vehicle Nozzle:** A nozzle designed to be deployed under an EV, with the goal of cooling a lithium-ion battery that is experiencing Thermal Runaway. The Under-Vehicle Nozzle can flow a maximum of **500 GPM** with a discharge pressure is **150 psi** for a **100 ft** leadout of 2-½” hose. **The recommended initial flow is 250 GPM at 75 psi.**



IV. PROCEDURE

A. The following Companies will receive one (1) Under-Vehicle Nozzle:

1. Designated Companies or response vehicles, by District:

DIST 1		DIST 2		DIST 3		DIST 4	DIST 5
E1	E19	E102	E11	ORD	MDW	E57	E63
E13	E84	E70	E108	BN 13	BN 16	E107	E72
E98	E60	E83	E125	SQ 7	6-3-7	E113	E121
E4		E78	E91				E115
E8		E55					

2. High-Rise Unit 6-4-16.

3. Other companies or response vehicles, as determined by the Fire Commissioner.

B. Upon receipt of the Under-Vehicle Nozzle, Company Officers shall record the receipt of the Under-Vehicle Nozzle into the Company Journal and all appropriate inventories.

C. Any damage or deficiencies noted with the Under-Vehicle Nozzle during the daily inspection shall be reported immediately to the Company Officer.

D. Any damage or deficiencies to the Under-Vehicle Nozzle which requires replacement shall be directed by the Company Officer to the on-duty officer at the Division of Breathing Apparatus Service (BAS).

E. Company Officers shall ensure that the Under-Vehicle Nozzle is always properly secured and stored on the apparatus when not in use.

F. Lost, stolen, or damaged Under-Vehicle Nozzles shall be reported and documented in compliance with current Department policies and procedures.

V. OPERATIONAL USE OF THE UNDER-VEHICLE NOZZLE

A. All EV fires shall be mitigated in accordance with the current Department SOP for Electric Vehicle Fires.

B. The Under-Vehicle Nozzle shall be deployed at all EV fires in which the vehicle's lithium-ion battery is on fire or is otherwise compromised and at risk of starting on fire, regardless if the battery is experiencing thermal runaway.

C. If the responding Engine Company does not have an issued Under-Vehicle Nozzle, the Company Officer or Incident Commander shall request the response of a company equipped with an Under-Vehicle Nozzle via the OEMC.

- D. The Under-Vehicle Nozzle shall be supplied by a 2-½” hose line. Long leadouts to reach remote locations may require a combination of 2-½” hose and 4” LDH with a reducer to minimize overall friction loss.
- E. The Engine Company on scene shall also lead out and charge appropriate-sized hose line(s) to rapidly attack the fire, to protect exposures, and to protect members deploying the Under-Vehicle Nozzle.
- F. The Under-Vehicle Nozzle shall be maneuvered into position underneath the EV battery via the extension arm attached to the nozzle body. Long pike poles can also be used to safely position the nozzle, if necessary.
- G. The Under-Vehicle Nozzle can also be utilized for other firefighting scenarios, such as deep-seated fires, basement fires, or other situations, as determined by the Incident Commander.
- H. After each deployment of the Under-Vehicle Nozzle the Incident Commander shall submit a **Form 2 to District** which provides details of the incident, the tactical use of the nozzle, and any issues or problems that may have been encountered during the incident.

VI. RESPONSIBILITIES

- A. Company Officers shall be held accountable for the daily inventory, inspection, and care of the Turtle Nozzle.
- B. Chief Officers and Company Officers shall be responsible for ensuring compliance with the provisions of this Order.
- C. Chief Officers and Company Officers shall conduct Company School to ensure that all members are aware of the provisions of this Order.
- D. It is the responsibility of all members to have a thorough knowledge of this Order.

By order of:



Marc Ferman
Deputy Fire Commissioner
Bureau of Operations

TO BE READ AT FOUR (4) ROLL CALLS AND POSTED

Distribution: A