

I-TECC

International – Training Education Certification Consulting

“Industry Controlled Perpetual Training for the Safety and Efficiency of Operators and Roadway Workers”.

Hybrid/EV (Electric Vehicle) Training

Syllabus

- Four (4) Hours Classroom
- By Request Add On Option –
- Two (2) Hours Hands-On



E.V./HYBRID/ALTERNATE FUEL VEHICLES EMERGENCY RESPONSE

This Operational Safety Course is designed for towing, recovery, fire, law enforcement, and emergency services personnel responding to alternative fuel vehicle incidents. The curriculum focuses on hazard mitigation, safety protocols, and tactical operations for electric, hybrid, compressed natural gas (CNG), liquified natural gas (LNG), propane (LPG), and hydrogen-propelled systems.

❖ Course Objectives

By the end of this session, emergency responders and recovery operators will be able to:

- Execute universal response protocols, including the identification, immobilization, and disabling of high-voltage and alternative fuel systems.
- Manage electric vehicle hazards such as thermal runaway and stranded energy, and implement safe recovery protocols like the 50-foot quarantine rule.
- Differentiate tactical operations for CNG pressure hazards, versus propane BLEVE (Boiling Liquid Expanding Vapor Explosion) risks and low-lying gas pooling.
- Detect invisible hydrogen flames using Thermal Imaging Cameras (TIC), and manage 10,000 psi high-pressure systems.
- Apply recommended - Transport, Towing, Winching and Relocation Procedures - Carrier, Wheel Lift Towing, and Dolly use and operations - Resistance Calculations, Fundamentals of Rigging, and Snatch Block usage and applications.

❖ Course Agenda

Segment 1: Visual Identification and Incident Safety

- Redundant identification utilizes badging and orange high-voltage cabling, alongside immobilization utilizing Faraday bags, wheel chocks, and EV emergency plugs.

Segment 2: Electric Vehicle Hazards & Thermal Runaway

- Fire suppression requires 3,000 to 8,000 gallons of water for cooling, while safe recovery requires low-voltage disconnects and post-incident isolation.

Segment 3: Compressed Gases (CNG, LNG, & Propane)

- Operators must avoid applying water to CNG tanks to allow PRD (Pressure Relief Device) venting, but must apply heavy water streams to cool propane tanks to prevent rupture.

Segment 4: Hydrogen Systems & Joint Readiness Review

- Responders must establish 50-meter exclusion zones for hydrogen systems, and coordinate shared command posts between fire and towing disciplines.

Segment 5: Towing, Transport, Relocation Fundamentals and Safety Concerns

- Understanding forces applied, safe and efficient use of equipment assets and rigging capacities.