



# Fire App Incident Reporting for Li-Ion Battery Incidents



## **Building Fires – includes Battery Energy Storage Fires (BESS)**

**\*\*To document any lithium-ion related fire or thermal runaway event INSIDE a building, the Incident Type is a 100 Series for a Fire.\*\***

### **Incident Type:**

- **(111) Building Fire – any Li-Ion battery fire not below. Includes vehicles that start the fire inside a building or garages**
- **(112) Fires in structure other than a building – Outside Battery Energy Storage System (BESS), EV Charging Station, etc.**
- **(117) Commercial Compactor fire confined to rubbish – I.e. – improperly disposed of battery starts fire in the compactor of a building with no fire or smoke travel throughout**
- **(123) Fire in portable building, fixed location**

### **Property Tab**

- Complete as normal
  - On-Site Materials or Product Codes: *None (unless a significant amount was stored in building)*
  - Acres Burned: *if brush involved enter appropriately*

### **Ignition Tab**

- **Area of Fire Origin:** *Self-explanatory*
- **Heat Source:** Select one
  - *Spark, ember, or flame from operating equipment (I.e. – battery emitted flame and scorched or ignited other materials or the structure)*
  - *Radiated, conducted heat from operating equipment (I.e. – battery shows signs of thermal runaway but did not scorch other equipment/materials or structure)*
  - *Electrical arcing – may be appropriate in certain situations that don't meet above*
- **Item First Ignited:**
  - *Furniture, Utensils, including built-in furniture: Appliance housing or casting (I.e. – laptop, cell phone, vacuum, small electronic equipment, etc.)*
- **Confined to Object:** *Self-explanatory*
- **Material First Ignited:** *Multiple types of material*
- **Cause of Ignition:** Select one
  - *Failure of equipment or heat source: Includes mechanical problems*
  - *Intentional: In the event someone uses battery device for nefarious purposes*
- **Ignition Factors:** Select one
  - *Electrical Failure, Malfunction*
    - *Short-circuit arc from mechanical damage*
    - *Unspecified short-circuit arc.*

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- *Operational Deficiency*
  - *Collision, knock down, run over, turn over*
  - *Equipment not operated properly (I.e. - overcharged)*
  - *Operational deficiency, Other*
- **Human Factors:** *Self-explanatory and enter Age/Gender if applicable*
- **Fire Suppression Factors:** *Significant/unusual fuel load from contents*

## Equip & Mobile Tab (Enter what is known or list unknown)

- **Equipment Involved in Ignition**
    - **Equipment Involved:** *Electrical Distribution, Lighting & Power: Battery (Includes all battery types)*
    - **Brand:** *Enter if known*
    - **Model:** *Enter if known*
    - **Serial #:** *Enter if known*
    - **Year:** *Enter if known. If unknown, enter 0000*
    - **Equipment Power Source:** *Batteries and low voltage (less than 50 volts).*
    - **Equipment Portability:** Select one
      - *Portable: Includes equipment that can be carried or moved by one or two persons and designed to be used in a variety of locations. Tools are not needed to install or operate the equipment I.e. – phones, laptops, certain appliances*
      - *Stationary: Includes equipment that is mounted at a fixed site or location or designed to be operated in one location. I.e. – Battery Energy Storage Systems (BESS)*
  - **Mobile Property Involved**
    - *Mobile Involved: Self-explanatory and below are most common*
      - **Passenger Road Vehicles**
        - *Automobile, passenger car*
        - *Bus, school bus, trackless trolley*
        - *Motorcycle, trail bike*
        - *Off-road recreational vehicle – I.e. – Ebike, E-scooter, etc.*
        - *Passenger road vehicle, Other*
      - **Freight Road Vehicles**
        - *Garbage, waste, refuse truck*
        - *General use truck, dump truck, fire apparatus*
        - *Hauling rig, pickup truck*
        - *Trailer-semi, designed for freight I.e. – EV tractor trailer and BESS trailer*
      - **Mobile Property, Miscellaneous & Other**
        - *Home, garden vehicle*
        - *Shipping container, mechanically moved I.e. – BESS container*
    - *Type: Select most appropriate*
    - *Make: Select most appropriate. Select “Other Make” if not listed*
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- **Model:** Enter the model name preceded by one of the following if applicable:
  - **Electric** – all electric vehicle (I.e. Electric F150 Lightning, Electric Model 3, etc)
  - **Hybrid** – hybrid electric vehicle (I.e. – Hybrid S60, Hybrid Tribute, etc)
- Year/License Plate/State/VIN: *Enter if known*

## Structure Tab

- Complete all items as normal

**Hazmat Tab** – Consult with Hazmat Officer if necessary. Highlighted items are mandatory

## Scene Tab

- **Release From:** *Inside or On Structure*
- **Story of release:** *Self-explanatory*
- **Only fill out the following items if there was an evacuation.** I.e. – Large BESS fire, extended EV fire, etc.
  - Population Density: *Self-explanatory*
  - Area Affected Unit: *Self-explanatory*
  - Total Area Affected: *Self-explanatory*
  - Area Evacuated Unit: *Self-explanatory*
  - Total Area Evacuated: *Self-explanatory*
  - # of People Evacuated: *Self-explanatory*
  - # of Buildings Evacuated: *Self-Explanatory*
- **Hazmat Actions Taken:** *Select all appropriate. Below are common items for battery incidents:*
  - Hazardous Condition
    - *Identify, analyze hazardous materials*
    - *Hazmat detection, monitoring, sampling, analysis*
    - *Remove hazard or hazardous materials*
  - Information, Investigation & Enforcement
    - *Investigate*
    - *Notify other agencies (I.e. - MDE)*
  - Isolation and Evacuation
    - *Isolate area & establish hazard control zones*
    - *Protect-in-place operations*
- **Fire or Explosion** – **which occurred first:**
  - *Ignition – actual fire*
  - *Release – thermal runaway event with vapor and no fire*
  - *Undetermined – self-explanatory*
- **Cause of Release:** *Container or containment failure*
- **Release Factors:** *select most appropriate. Below are most common:*
  - Operational Deficiency
    - *Collision, overturn, knockdown*
    - *Equipment not being operated properly*



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- *Equipment overload*

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- *Mechanical Failure, Malfunction*
  - *Short circuit, ground fault*
  - *Other electrical failure*
- **Mitigation Factors:** *select most appropriate. Below are most common for EV fires:*
  - *Release Factors*
    - *Combination of release and fire impeded mitigation*
  - *Site Factors – Select ALL appropriate*
    - *Released in residential area*
    - *Released into sewer system – I.e. – fire water runoff into system*
    - *Released into water table – I.e. – fire water runoff onto ground or into body of water*
    - *Released on major roadway – Self-explanatory*
- **Disposition:** *Select most appropriate*
  - *Released to property owner or manager – vehicle left in place and responsible party advised of follow-up actions*
  - *Released to private agency – I.e. – tow truck takes vehicle away*
  - *Released to county agency. I.e. – MCPD handling scene*
  - *Released to state agency – I.e. – MDE remains on scene*
- **Casualties:** *complete as appropriate*

## **Material Tab**

- Select Add Chemical
- **Chemical Name** (Select one of the following)
  - Lithium-Ion Batteries (any cell, battery pack, appliance, mobility device small than an over the road vehicle)
  - Lithium-Ion Batteries contained in equipment (vehicles such as cars, trucks, etc. or other large equipment)
  - Lithium-Ion Batteries installed in cargo transport (box trailer, etc.)
- **Est Amount Released** – enter 1 as default or unknown (this is a NFIRS required field)
  - *Note – (1) 18650 Cell = approx. 4grams. I.e. - 50 cells = 200grams*
- **Released units** – enter ounces or grams as default.
- All other fields are optional. If you know something enter it.

## **Equipment & Mobile Tab**

- Not required at this point - Same info as Ignition tab section if need be

## **Narrative Tab**

- Enter any specifics to the battery- or battery-operated equipment if necessary