STATE OF MICHIGAN
GRETCHEN WHITMER
GOVERNOR

DEPARTMENT OF LICENSING AND REGULATORY AFFAIRS
LANSING

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DIRECTOR

Memorandum

DATE: May 8, 2023

TO: Michigan Fire Service

FROM: Kevin J. Sehlmeyer, State Fire Marshal/Director

SUBJECT: Documenting Lithium-Ion Battery-Related Incidents in NFIRS

Reports of incidents involving lithium-ion batteries have raised questions about coding these incidents in NFIRS. Fire agencies may find this information helpful for planning, training, and budgeting for specialized equipment.

BASIC MODULE:

- Fires that occur because of lithium-ion batteries should use incident type codes in the **100 series (Fire)**, such as:
  - **111 – Structure Fire**, or
  - **131 – Passenger Vehicle Fire**
- For Injuries that occur because of a lithium-ion battery, use appropriate incident types in the **300 series**, such as:
  - **311 – Medical Assist**, **assist EMS Crew**
  - **321 – EMS Call (excludes motor vehicle accident with injuries)**, or
  - **322 – Motor vehicle accident with injuries**
- Incidents involving lithium-ion batteries that do not start a fire but present a hazardous condition should be coded in the **400 series – Hazardous Condition (No Fire)**, such as:
  - **422 – chemical spill or leak**, or
  - **445 – arcing, shorted electrical equipment**
- In the **Remarks/Narrative** field, indicate ***involvement of a lithium-ion battery*** along with a complete narrative including:
  - Whether or not the battery was being charged at time of the incident.
  - Estimated percentage of battery charge at time of the incident.
  - If known, type of battery. (Examples: Pouch Cell, Cylindrical Cell, or Prismatic Cell)

For fire departments using a third-party vendor software for NFIRS reporting, the Bureau of Fire Services asks that you consider using the following plus-one coding for gathering consistent data from as many Michigan fire departments as possible.

THIRD-PARTY VENDOR PLUS-ONE CODING:

If agencies have the ability to add plus-one coding in their NFIRS reporting software with their third-party vendor, the following plus-one codes are being instituted in Michigan within the Fire Module to assist in deeper analysis on incidents involving lithium-ion batteries.

Note: Fire departments will need to work with their third-party vendor with any questions regarding plus-one coding for clarification and/or coordination.

- **Equipment Involved in Ignition:**
  - 229***1*** **–** battery, ***lithium-ion – personal mobility***
  - 229***2*** **–** battery, ***lithium-ion – small electronics***
  - 229***3*** **–** battery, ***lithium-ion – electric vehicles and vehicle charging***
  - 229***4*** **–** battery, ***lithium-ion – battery/energy storage system***

- **Factors Contributing to Ignition:**
  - 50***1*** **–** Operational deficiency, other **– *battery fails while/during charging***
  - 40***1*** **–** Design, manufacturing, installation deficiency, other **– *battery fails any other time***

In addition to these plus-one codes, the guidance below for further coding within the Fire Module (and/or other appropriate modules) should still be followed, as applicable, for to what was found at the incident.

- The **Fire Module** is always required for Incident Types **111 – 112, 120 – 138,** and **161 – 164**.
- The **Fire Module** is optional (but recommended) for incident types **113 – 118**.
- If the **Wildland Module** is not completed *in place of* the Fire Module, then the Fire Module **must** be completed for incident types: **140 – 143, 160,** and **170 – 173**.
- **Heat Source:** This will vary upon the incident. If the battery itself caused a fire, codes in the **10-series are recommended**, such as:
  - **12 – Radiated or conducted heat from operating equipment**, or
  - **13 – Electrical arcing.**
- **Equipment Involved in Ignition:** Use **229 – Battery** or **228 – battery charger, rectifier.**
- **Equipment Power Source:** Use **12 – Batteries and low voltage (less than 50 volts)**
- **Equipment Portability:** Use **1 – Portable** or **2 – Stationary**

- **Mobile Property Involved:** If a mobile property was involved, the entire Mobile Property Involved section should be completed to the best of the AHJ's ability, including Mobile Property Type, Make, Model, Year, and (if applicable or possible) License Plate, State, and VIN. First, select the code most applicable:
    - **1 – Mobile property not involved in ignition, but burned in fire following ignition**
    - **2 – Mobile property was involved in ignition, but did not burn**
    - **3 – Mobile property involved in ignition, and it burned**
    - **N – None**
- **Mobile Property Type –** Select the code most applicable. Examples include:
    - **11 – Automobile, passenger car, ambulance, limousine, race car, taxi**
    - **12 – Bus, school bus**
    - **10 – Passenger road vehicles, other** (Use this code for hover boards, motorized scooters, etc. Use the Narrative/Remarks field in the Basic Module to detail the specific type of mobile property.)

CIVILIAN FIRE CASUALTY MODULE & FIRE SERVICE CASUALTY MODULES:

Per NFIRS reporting rules, a Civilian Fire Casualty Module should be completed by the AHJ on an incident if a civilian casualty results from a fire. (One module per civilian fire casualty.) The Fire Service Casualty module should be completed when an injury, death, *or* exposure to your own Fire Service Personnel occurs because of an incident. One module should be completed for each person if there are multiple injuries, deaths, or exposures.

WILDLAND MODULE:

If the **Fire Module** is not used in place of the Wildland Module, then the **Wildland Fire Module must** be completed for incident types: **140 – 143, 160,** and **170-173.**

- **Heat Source:** This will vary upon the incident. If the battery itself caused a fire, codes in the **10-series** are recommended, such as:
    - **12 – Radiated or conducted heat from operating equipment**, or
    - **13 – Electrical arcing.**

More Coding Resources related to Lithium-Ion batteries via U.S. Fire Administration:

- Coding Electric or Hybrid Vehicle Fires
- Coding Electronic Cigarette Fires (Note: This guidance includes "vape" pens or other tobacco vapor delivery systems.)
- Coding a Hover Board Fire

For assistance or questions, please contact NFIRS Program Manager Rhonda Howard by phone at 517-241-0691 or email at NFIRS@michigan.gov.