



Battery Management

Solid Waste Management Response to Lithium-Ion Batteries

Battery fires an 'existential threat' for industry

Posted on April 10, 2018

by [Colin Staub](#)


There's a growing worry among MRF operators, and it has nothing to do with commodity markets: Lithium-ion batteries are causing fires and explosions at facilities nationwide.

Although experts agree the issue has not been studied conclusively, operators report increasing instances of battery fires at recycling facilities across the country. The problem has grown so substantial that, during a presentation last fall on markets and the Chinese import restrictions, a California MRF operator took the opportunity to sound the alarm.



Significant Damage Reported in San Carlos Recycling Center Fire

The facility sustained significant damage from the fire and the water used to fight the fire, RethinkWaste director says.

By Renee Schiavone, Patch Staff 
Sep 9, 2016 12:08 pm PT

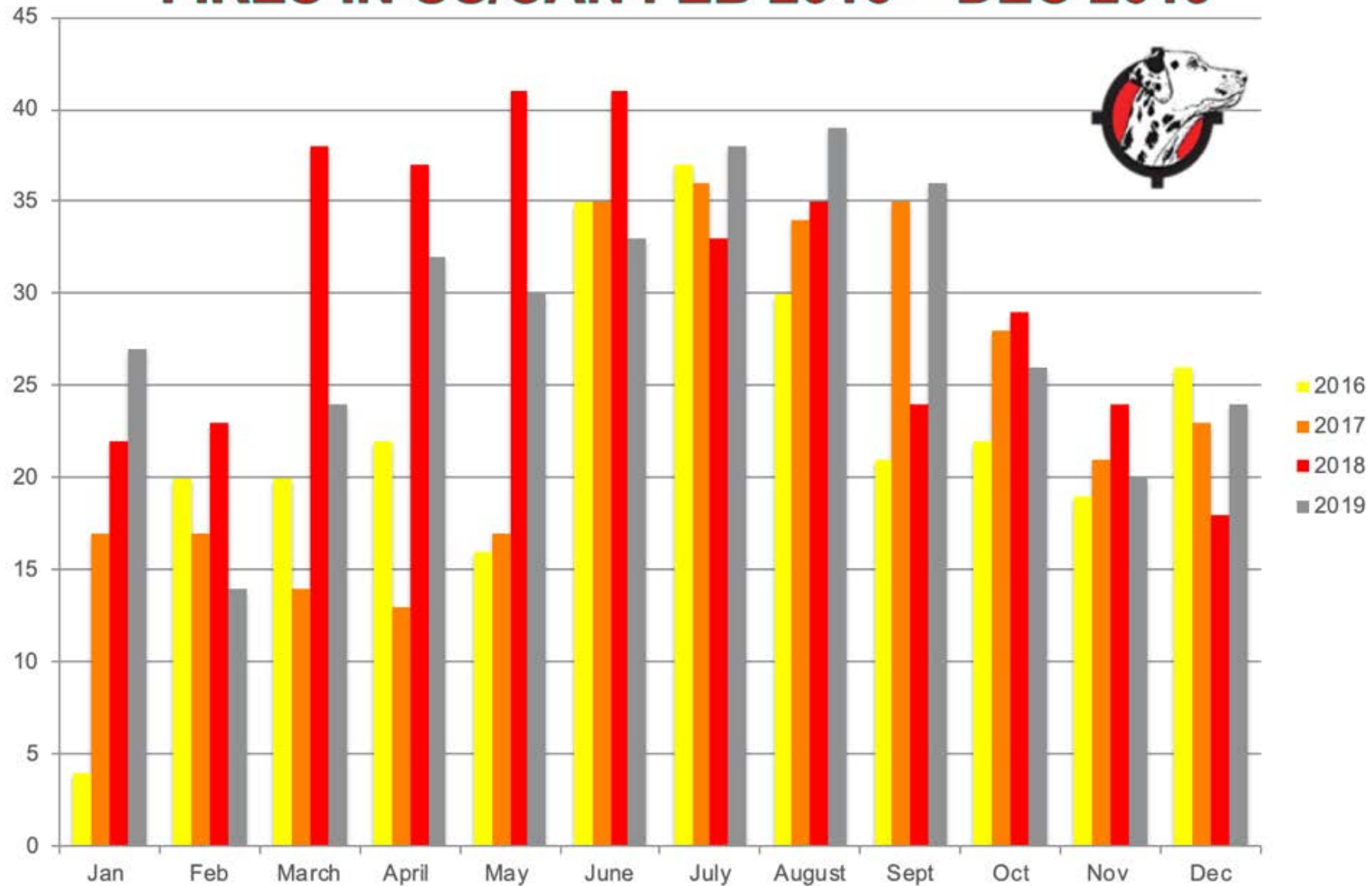
News

San Carlos recycling plant ravaged by four-alarm fire



Four-alarm fire at Shoreway Environmental Center

REPORTED WASTE & RECYCLING FACILITY FIRES IN US/CAN FEB 2016 – DEC 2019



Source: Ryan Fogelman, rfogelman@firerover.com



Lithium Battery Working Group

- Diverse group of stakeholders working collaboratively to seek solutions
- SWANA, NWRA, ISRI, Call2Recycle and many more
- Multi-faceted response necessary



Options

- Labelling
- Collection
- Operational Changes
- Infrastructure Updates
- Education & Outreach
- Legislation



Labelling

- Chasing arrows recycling symbol confusing to public
- Difficult to identify and separate types of batteries by chemistry
- Battery labelling complicated, international issue



Collection

- Curbside collection of batteries no longer sustainable
- Battery collection practices shouldn't vary by chemistry
- More robust battery and electronics collection efforts
- Drop off locations, special events, etc.



Education & Outreach

- Issue brief
- Meeting with local, state and federal officials
- Support public education efforts re battery disposal
- Involve stakeholders from entire battery management cycle



Operational Changes

Lithium Battery Handling Recommended Management Practices for MRFs

- Contractual Language
- Inbound Material Control
- Battery Recovery
- Battery Identification
- Removal
- Storage
- Damaged Battery Protocol
- Fire Suppression & Response



Infrastructure Updates

- Infrared cameras and alarms
- Water cannons
- Foam sprayers
- Dry chemical fire extinguishers
- Cameras
- Blast relief hatches
- Sprinklers
- Manual deluge systems
- Automated dry chemical systems
- Manual dry chemical systems
- Extinguishers/fire house stations



Legislation & Regulation

- Nearly 60% of states of some type of battery recycling requirements
- More wide-spread, more robust options considered
 - CalRecycle Battery Recycling Labeling Rulemaking
 - California Assembly Bill 1509
 - Maine H.P. 1153
 - Arizona?



Model Legislation



Prohibitions

- “no person shall knowingly mix a lithium or rechargeable battery with any other material intended to be collected by a trash or recycling hauler.”
- “no person shall knowingly place a lithium or rechargeable into a container intended for collection by a hauler for processing at a waste or recycling center.”



Model Legislation



Lithium Battery Stewardship Program

- Retail outlets selling lithium batteries must participate in Program
- Program funds collection and recycling
- Program provides collection locations at municipalities that make request
- Program develops and funds public education and outreach campaign
- Program submits annual report estimating recovery



EREF Study

- Frequency of MRF and scrap recycling fires annually (i.e. % of facilities)
- Frequency of collection vehicles fires
- Suspected cause(s) of these fires
- Strategies/technologies used to fight the fire
- Damage caused by the fire (e.g. property, personnel injury/death, lost operating revenue)
- Preventative measures taken to minimize the potential for fires
- Likelihood for lithium ion batteries to be disposed of at MRFs or scrap yards and potential to cause a fire
- <https://erefdn.org/assessment-of-the-frequency-and-cause-of-fires-at-material-recovery-and-scrap-recycling-facilities-and-collection-vehicles/>

Questions?

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