BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	R2026-017
PROPOSED 35 ILL. ADM. CODE	)	
SUBTITLE K: RECYCLABLE, RECLAIMABLE, OR	)	
REUSABLE WASTES, CHAPTER I POLLUTION	)	
CONTROL BOARD, PART 1220 MANAGEMENT	)	
OF USED EV BATTERIES	)	

NOTICE

TO: Don A. Brown, Clerk
Illinois Pollution Control Board
60 E. Van Buren Street
Suite 630
Chicago, Illinois 60605
(VIA ELECTRONIC MAIL)

Nerissa Moisan, Hearing Officer
Illinois Pollution Control Board
60 E. Van Buren Street
Suite 630
Chicago, Illinois 60605
(VIA ELECTRONIC MAIL)

See attached Service List

PLEASE TAKE NOTICE that I have today electronically filed with the Office of the Clerk of the Illinois Pollution Control Board Illinois Environmental Protection Agency's Pre-Filed Responses to the Illinois Pollution Control Board's May 19, 2026 Hearing Officer Order, a copy of which is herewith served upon you along with this notice.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
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Assistant Counsel
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DATED: June 2, 2026
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ILLINOIS ENVIRONMENTAL PROTECTION AGENCY'S PRE-FILED RESPONSES TO THE ILLINOIS POLLUTION CONTROL BOARD'S MAY 19, 2026 HEARING OFFICER ORDER

Illinois Environmental Protection Agency's ("Illinois EPA") Pre-Filed Responses To The Illinois Pollution Control Board's (the "Board") May 19, 2026 Hearing Officer Order:

RESPONSES TO PRE-FILED QUESTIONS

1. Please explain how IEPA interprets the relationship between "used EV battery" status under Part 1220 and batteries that remain in commerce for purposes of testing, repair, remanufacturing, repurposing, reuse or second-life deployment, or recycling or materials recovery, including whether IEPA treats these activities as distinct regulatory categories or as a single continuum of "in-commerce" handling.

    a. If IEPA treats these activities as a continuum, please explain how the point at which a battery becomes a "used EV battery" subject to regulation is determined within that continuum and how regulatory obligations under Part 1220 attach at that point.

    Response: Under Part 1220, battery becomes a "used EV battery" once it is removed from a vehicle. The proposed rules would apply to used batteries during times they are being stored prior to being recycled, reclaimed or reused (or prior to being disposed for those used batteries that are not recycled, reclaimed or reused). Once a battery is recycled, reclaimed or reused (per 415 ILCS 5/3.380, rendered reusable processed into a raw material or product being returned to the economic mainstream) it would no longer be considered a "used battery".

    b. If IEPA treats these activities as distinct categories, please identify how each category is defined for purposes of applicability under Part 1220 and how regulatory obligations differ, if at all, among those categories.

    Response: In determining whether a used battery has been recycled, reclaimed, or reused the Agency would follow the definition in 415 ILCS 5/3.380 and its

interpretation by the Supreme Court in Alternate Fuels, Inc., v. Director of the Illinois Environmental Protection Agency, Docket No. 96071 (Ill. Sup. Ct., October 21, 2004).

2. Can a battery intended for reuse or second-life deployment still be considered a "used EV battery" while it is accumulated, transported, tested, or awaiting repurposing? If so, at what point does the exclusion for batteries "returned to reuse" or "returned to the economic mainstream" apply?

   Response: Yes. A battery that is intended for reuse or second-life deployment is considered a "used EV battery" once it is removed from an electric vehicle, and would be subject to the proposed rules during any time it is being stored. If the battery once again becomes a product by being rendered reusable, or by being recycled or reclaimed (e.g., tested and/or refurbished for reuse or dismantled into raw materials), it would no longer be considered a "used battery" and therefore not regulated under Part 1220.

3. What criteria does IEPA intend to apply when determining whether a battery remains a product in commerce for reuse versus becoming a regulated "used EV battery" subject to Part 1220?

   Response: The only criteria for determining if a battery is subject to Part 1220 is if it is a battery that has been removed from an electric vehicle and is being inertly stored prior to being recycled, reclaimed or reused. For example, storage at an auto shop that removed the battery, storage at a recycling facility prior to recycling, or storage at an intermediate facility between the two. Inertly stored in this case means the battery is not being actively charged or discharged for the purposes of providing or storing power, or otherwise connected to a power grid.

4. How will IEPA verify intent for reuse?

   Response: Part 1220 does not distinguish between the future intent for a used EV battery. The Agency will look for demonstrative evidence that a used battery has been rendered reusable. For example, it is in fact being reused as a battery or is being offered for legitimate sale as a battery after testing or refurbishment.

5. If a battery is temporarily stored for diagnostics, grading, repair, or repurposing before second-life deployment, at what point does Part 1220 become applicable?

   Response: Second-life deployment would most likely be a reuse. Part 1220 becomes applicable after the battery is removed from the vehicle and would apply at any time that a used EV battery is being stored prior to or between any of the circumstances described.

   For example, if a used EV battery is intended to be reused in an electric storage system, when the used EV battery has been removed from the electric vehicle and is not being

tested, repaired, or incorporated into the electric storage system, it must be stored in accordance with Part 1220. When the used EV battery is in the process of being tested or repaired, it is not being stored and therefore is outside of the scope of Part 1220. If that battery is then stored again, it must be stored according to Part 1220. Once that battery is incorporated into the electric storage system it is intended to be reused for, it is no longer a used EV battery and is not regulated under Part 1220 as it is not being stored and is instead a functioning battery that is actively being used.

6. Please explain whether batteries incorporated into active second-life or energy storage applications, including systems capable of charging or discharging electricity, are intended to remain subject to Part 1220.

    a. Please explain whether Part 1220 is intended to apply differently to batteries that are actively charging or discharging as compared to batteries in storage, transport, staging, or evaluation status.

        Response: Part 1220 does not apply to batteries that are actively charging or discharging, in transport, or are undergoing repair, refurbishing, or testing. Part 1220 only applies to used EV batteries during the time they are inertly stored.

    b. Please comment on whether the rule should expressly address charging or discharging activities associated with repurposed or second-life battery systems.

        Response: Part 1220 only addresses storage of used EV batteries. Batteries that are being actively charged or discharged as a part of an electric storage system are batteries that are in use and are not used EV batteries as defined in Part 1220 or Section 22.23f of the Act. Further, this Part only regulates used EV batteries as the statutory authority under Section 22.23f(d) of the Act specifically directed the Illinois EPA to propose rules for the operation of battery storage sites, which Section 22.23f(a) of the Act defines as sites storing used EV batteries. It does not authorize the regulation of electric storage systems.

7. If a battery that is initially designated for reuse is later determined to be unsuitable, fails during repurposing, or fails in second-life service, how would regulatory responsibility and jurisdiction be assigned under Part 1220?

    Response: If a used EV battery that was intended to be reused is deemed to be unsuitable for those purposes, any future storage of that battery would be regulated under Part 1220 until a time when the battery is otherwise recycled, reclaimed or reused. If the battery is instead disposed it would become subject to regulation as a waste.

8. If a battery incorporated into a second-life application later fails, causes a fire, releases contaminants, or otherwise causes environmental harm, how does IEPA anticipate

regulatory responsibility, remediation obligations, and jurisdiction will be assigned?

Response: Any battery that is incorporated into a second-life application is not considered a used EV battery and does not fall under Part 1220. It has been recycled, reclaimed, or reused and become a new product akin to a virgin battery. It is no longer a subject to Part 1220. If the battery later fails, causes a fire, releases contaminants, or other causes environmental harm it would be subject to the same regulatory responsibilities, remediation obligations, and jurisdiction that apply to a virgin battery or any other product. As this rulemaking is only directed towards the authorities provided in Section 22.23f(d) of the Act, Part 1220 does not apply after a battery is recycled, reclaimed or reused and therefore does not provide any regulatory response or remediation obligations for batteries that are incorporated into a second-life application. Any release from batteries that are recycled, reclaimed or reused would be addressed through the standard enforcement and response mechanisms provided under the Act.

9. In response to Question 3 (IEPA Supp. Resp.), IEPA states that a Board Note or specific cross-references to applicable hazardous waste rules could be added to Section 1220.110 to provide clarification. Please provide the Board Note language, including specific citations to the hazardous waste rules.

   Response: BOARD NOTE: This Part does not exempt any used EV battery storage sites from compliance with hazardous waste rules or otherwise supersede any other rules, including any applicable requirements under 35 Ill. Adm. Code 733.

10. In the Illinois Environmental Protection Agency's Pre-Filed Answers to the Board's March 6, 2026 [sic] Hearing Officer Order (IEPA Answers), IEPA states, in response to Question 12, that "Part 1220 does not explicitly address when the hazardous waste rules become applicable to used EV batteries." Please explain whether IEPA intends to include a provision clarifying when hazardous waste regulations apply to used EV batteries under specific handling, storage, processing, failure, disposal, or end-of-life circumstances.

    Response: The Illinois EPA does not intend to include a provision to clarify when hazardous waste regulations apply to used EV batteries in this rulemaking. Those rules apply independently of Part 1220 to batteries that fall within the definition of hazardous waste. Rather, the Illinois EPA has provided cross-references to the applicable hazardous waste rules, *see* Response to Question 9, as a general reference. As regulations for lithium chemistry batteries continue to change at the state and federal level, this Part is not intended to conflict with or otherwise override any hazardous waste regulations that address EV batteries. The additions to Section 1220.110 as stated in the Response to Question 9 include a provision that this Part 1220 does not succeed or override any hazardous waste rules regarding EV batteries.

11. In response to Question 27 (IEPA Supp. Resp.), IEPA states that financial assurance under Part 1220 addresses only the cost of removal of used EV batteries at a storage facility. IEPA further indicates that an owner or operator may be required to demonstrate that "adequate financial resources" are available to remediate the site pursuant to the remediation objectives in 35 III. Adm. Code Part 742 under Sections 30 and 31 of the Environmental Protection Act (Act).

    a. Please clarify whether, under the Act, an owner or operator may be required to demonstrate financial responsibility for remediation of a site in the event of a fire or explosion involving used EV batteries, separate and apart from the financial assurance requirements under Part 1220.

    Response: Consistent with financial assurance required at other regulated sites, under Part 1220 financial assurance is only applicable to the costs of properly closing a site; here, the removal and recycling or disposal of batteries from a used EV battery storage site. Any costs associated with remediation of the site in the event of a release would be established pursuant to an enforcement action for an unlawful release under the Act.

    b. If so, provide citations to the specific statutory provisions authorizing such requirements.

    Response: Section 31 of the Act authorizes the Illinois EPA to initiate enforcement proceedings against any person alleged to have violated the Actor any rule adopted under the Act. 415 ILCS 5/31(a). Any fire, explosion, or other release involving used EV batteries resulting in releases into the air, water, or groundwater or onto the land in violation of 415 ILCS 5/9(a), 5/11(a), 12(a), and 21(a), respectively, or any other sections of the Act or Illinois Administrative Code could result in appropriate enforcement actions being taken. Part 1220 requires the Illinois EPA to be notified in the event of a fire or explosion, which would allow the Illinois EPA to exercise its enforcement authority under the Act.

    c. Please comment on Part 1220 could or should include a cross-reference to applicable provisions of the Act and 35 Ill. Adm. Code Part 742 addressing potential financial obligations for site remediation following a fire or explosion involving used EV batteries.

    Response: Liability for site remediation following a fire or explosion involving used EV batteries lies outside of Section 22.23f of the Act, independent of Part 1220. However, the Agency would not object to the inclusion of a provision stating that any release as a result of a used EV battery fire, explosion, or other release subjects the responsible parties to potential enforcement actions, with cross-references to

the applicable portions of the Act and other regulations.

12. In response to Question 32 (IEPA Supp. Resp.) on battery tracking under Section 1220.510, IEPA, relying on USEPA's Lithium-Ion Battery Recycling FAQ (USEPA FAQ), states that USEPA's Universal Waste Regulations for batteries do not require use of a uniform hazardous waste manifest or shipment by a hazardous waste transporter.

    However, the USEPA FAQ also states, "…Department of Transportation regulations for shipping lithium batteries do apply. EPA recommends that businesses consult their state solid and hazardous waste agencies for additional information on applicable universal waste regulations..."

    a. Please confirm whether the Agency agrees that transportation of used EV batteries under Part 1220 may also be subject to applicable U.S. Department of Transportation (USDOT) hazardous materials requirements.

        Response: The Illinois EPA agrees that the transfer of used EV batteries may be subject to applicable U.S. Department of Transportation (U.S. DOT) hazardous material requirements. However, the Illinois EPA would like to further clarify that transportation is not regulated under Part 1220. Only the transfer of used EV batteries, and the proper recording thereof, is regulated under Part 1220. Part 1220 does not impose any further transportation requirements, or otherwise override any state or federal regulations on the transportation of used EV or lithium batteries.

    b. Please comment on whether the proposed rules should include a cross-reference to any applicable USDOT regulations, like the ones listed in 35 Ill. Adm. Code 733.152 for universal waste transporters.

        Response: The Agency would not object to the inclusion of a cross-reference to applicable U.S. DOT regulations similar to the contents of 35 Ill. Adm. Code 733.152. However, the Illinois EPA emphasizes that unlike Subpart D of 35 Ill. Adm. Code 733, which establishes regulations on transporters, Part 1220 does not impose any regulations on the transportation of used EV batteries. For this reason, Part 1220 has not at this time included any cross-references to transportation regulations.

    c. If so, please identify the specific USDOT regulatory provisions that would be appropriate to cite.

        Response: Appropriate U.S. DOT regulatory provisions to cite in such a cross-reference would include 49 CFR 171 (General Information, Regulations, and Definitions), 172 (Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements), 173 (Shippers – General Requirements for Shipments and Packages),

174 (Carriage by Rail), 175 (Carriage by Aircraft), 176 (Carriage by Vessel), 177 (Carriage by Public Highway), 178 (Specifications for Packagings), 179 (Specifications for Tank Cars), and 180 (Continuing Qualification and Maintenance of Packagings).

13. In response to Question 33 (IEPA Supp. Resp.) on battery tracking, IEPA states that rule is not intended to regulate transportation of used EV batteries but requires used EV battery sites to maintain a record of when and who is transporting the batteries they receive or remove from the site.

    a. Please clarify whether the owner or operator of the used EV battery storage site is expected to have all the information to be included in the receipt given to the transporter, including the make, model, and year of the vehicle from which the used EV battery was removed from.

       Response: Receipts between the used EV battery storage site and transporter are expected to contain the same information. If available, receipts should include the make, model, and year of the vehicle from which the used EV battery was removed, as this information can provide valuable information on battery specifications, including weight, size, energy density, and chemistry.

    b. What information must be supplied by the transporter?

       Response: Where applicable, the transporter should supply any information that is available for the purposes of Part 1220, Subpart E. This includes the name of the transporter, weight in kilograms of batteries transported, and the chemistry, or if unavailable, the make, model and year of the vehicle from which any battery was removed. However, as Part 1220 does not regulate transportation, there is no specific requirement under this Part for a transporter to weigh or determine the chemistry and/or make, model, and year of the vehicle from which a battery was removed.

    c. If transporters are not regulated under Part 1220, what is the regulatory purpose of providing the transporter with a copy of the receipt?

       Response: While the activity of transportation is not regulated under Part 1220, the transfer of batteries is, which in this Part includes record keeping and tracking. Providing transporters with copies of any battery transfer receipts keeps two records which provides redundant copies in the event a battery storage site's records are incomplete or destroyed.

14. Who does IEPA anticipate will be responsible for tracking, compliance, and recordkeeping during battery transfer, testing, repurposing, and second-life deployment?

Response: Tracking, compliance, and recordkeeping in the case of a second-life deployment depends on the situation. When a battery is removed from a used EV battery storage site, it would be tracked by the owner/operator and the transporter will also retain a copy. If the used EV battery is transferred to a testing/repurposing facility or incorporated into a system for second-life deployment, any tracking would fall under that facility, but is not otherwise required to retain records unless the facility is also a used EV battery storage facility. As Part 1220 only has the authority to regulate used EV battery storage sites, any other site, including testing/repurposing or battery energy storage sites where the batteries are being actively charged and discharged, fall outside of the scope of this Part.

15. How will IEPA ensure that batteries incorporated into aggregated second-life storage systems remain traceable to their original source, chemistry, condition, and chain of custody?

    Response: Any second-life storage system falls outside of the authority of this rulemaking under Section 22.23f of the Act.

16. Does IEPA intend to establish or rely upon any statewide electronic reporting, manifesting, registry, or tracking system for used EV battery flows beyond the site-level recordkeeping requirements in Part 1220?

    Response: At this time, the Illinois EPA does not intend to establish any statewide electronic reporting or tracking system for used EV battery flows. The site-level recordkeeping requirements in Part 1220 are reflective of procedure used in other Parts of the Illinois Administrative Code.

17. What minimum data elements does IEPA expect to be necessary for effective tracking of used EV batteries across their lifecycle, including origin, chemistry, condition or state of health, and final disposition?

    Response: The minimum information for effective tracking of used EV batteries is expected to be the intake and outtake of used EV batteries at any given site, the chemistry of the battery (if available), and the origin (i.e. make, model, and year of the vehicle). Where battery chemistry information is unavailable, the make, model, and year of the vehicle can provide important information on the specifications of the battery utilized, including chemistry.

18. What electronic reporting, manifesting, or tracking systems does IEPA currently use or anticipate developing to manage increasing complexity and volume under this regulatory program?

    Response: The Illinois EPA anticipates developing an electronic portal for used EV battery

storage sites to submit registrations as required under Part 1220.

19. How does IEPA intend for reported data under this rule to be verified, audited, or validated for accuracy and completeness?

    Response: Illinois EPA intends for any reported data to be verified or audited under the Agency's general inspection powers as well as under Sections 1220.205, 1220.210, 1220.215, 1220.220, 1220.505, and 1220.530.

20. In response to Question 25 (IEPA Supp. Resp.) on the labeling of battery chemistries, IEPA states there is not a federal standard for EV battery labeling, but there is a voluntary battery labeling guideline. Please submit a copy of the voluntary battery labeling guideline.

    Response: Currently, the U.S. EPA is finalizing a standardized federal guideline on battery labeling. U.S. EPA maintains a webpage on voluntary battery labeling guidelines, including its white paper summaries on the topic, which can be found at the following webpage: Voluntary Battery Labeling Guidelines | US EPA. Additionally, attached as Attachment A is U.S. EPA's White Paper Summarizing Existing Battery Labeling Requirements and Standards, which includes information on voluntary labeling standards from the Society of Automotive Engineers, Battery Council International, and the Automotive Recyclers Association.

21. Please state whether IEPA intends to incorporate any environmental justice (EJ) considerations into Part 1220. If so, identify the nature of those considerations. If not, please explain the basis for excluding EJ considerations from the rulemaking.

    a. Please explain how EJ considerations would be applied, if included, in IEPA's determinations under Part 1220, including applicable criteria, standards, or procedures.

       Response: EJ considerations will not be applied to determinations under Part 1220. The proposed rules are designed to provide appropriate standards for all storage sites regardless of whether they are located in an EJ area or a non-EJ area.

    b. Please explain how IEPA would address EJ-related impacts, including through implementation, inspection, or compliance activities under Part 1220, regardless of whether EJ considerations are expressly incorporated in the rule text.

       Response: If an IEPA inspection found compliance concerns under Part 1220 or other enforceable action, swift action would be taken by the Agency against the party whether the site was in an EJ region or not. In any enforcement action EJ considerations would be taken into account the same as they are in any other

enforcement action.

22. Does IEPA intend the definitions and regulatory framework in Part 1220 to apply in a technology-neutral manner that would accommodate future EV battery chemistries and technologies beyond current lithium-ion and nickel-metal hydride designs? If so, please explain how such adaptability is reflected in the rule.

    Response: Part 1220 does not distinguish between battery chemistries or regulate based on the chemistry used. The current definition of "electric vehicle battery" in Part 1220 reads:

    > *"Electric vehicle battery" or "EV battery" means a rechargeable battery that is used to power the electric motors that propel an electric vehicle. "Electric vehicle battery" includes, but is not limited to, lithium-ion batteries and nickel-metal hydride batteries.* "~~Electric vehicle~~EV battery" encompasses the entire battery pack of an electric vehicle, but does not include the individual cells of an electric vehicle battery. [415 ILCS 5/22.23f(a)]

    While this definition includes references to lithium-ion batteries and nickel-metal hydride batteries, it explicitly includes that it is not limited to such batteries. In the event that a new chemistry is utilized in EV batteries, this rule will cover such a battery so long as it is utilized and removed from an electric vehicle.

23. How does IEPA anticipate addressing regulatory applicability for emerging battery technologies such as solid-state, sodium-ion, or other chemistries that may not be explicitly referenced in the rule?

    Response: See Response to Question 22.

24. What evaluation has IEPA conducted regarding its current staffing, technical expertise, and enforcement capacity to administer this program as the volume of used EV batteries increases over time?

    Response: Inspections of these facilities will follow similar procedures as other established programs within Illinois EPA. An inspection could include a records review and an inspection of the facility to ensure batteries are stored in accordance with Part 1220. Illinois EPA may also leverage inspections and oversight by other authorities as appropriate, such as delegated counties, other local governments, local fire departments, or the Office of the State Fire Marshal.

25. Was Part 1220 designed primarily based on current observed volumes of used EV battery, or does IEPA intend it to remain workable under substantially larger second-life and repurposing markets?

Response: Part 1220 is based on current information available on used EV batteries, with the understanding that the EV market will continue to grow and introduce more batteries into the used EV battery stream.

26. What estimates has IEPA developed regarding the number of regulated facilities, battery transactions, or storage volumes expected to fall under this rule over the next five years, and how did those estimates inform implementation planning?

    Response: As Section 22.23f calls for regulations governing an activity previously unregulated under the Act, this information is currently unknown.

27. How did IEPA evaluate whether Part 1220 will remain administratively and operationally workable under substantially increased numbers of regulated entities and battery flows?

    Response: Illinois EPA evaluated the administrative workload of this rulemaking with the understanding that battery flows will continue to increase as more electric vehicles enter the stream of commerce. As these regulations do not include a permitting program, the majority of the administrative load will be on registration reviews and financial assurance approvals. As the Illinois EPA expects the number of facilities to grow at a slower rate than the amount of batteries entering and leaving facilities, the administrative and operational workload is anticipated to be manageable despite the expected growth in the industry.

28. Regarding response to Question 8 (IEPA Supp. Resp.), please explain whether separate density factors, threshold calculations, or storage assumptions are necessary for semi-trucks, mid-size trucks, or other heavy-duty EV batteries, and whether such factors will be finalized before the end of the post-hearing comment period.

    Response: Based on Illinois EPA's communication with industry experts, separate density factors are not expected to be needed for weight calculation. Due to the amount of information available on EV batteries, it is expected that any facility that does not have the equipment to weigh used EV batteries would be able to find the specifications for a given battery, including weight. Therefore, the current density factor can remain as applicable for the vast majority of batteries on the market.

    Regarding storage assumptions, based on Illinois EPA's research, EV batteries in semi-trucks, mid-sized trucks, or other heavy duty EV batteries do not pose an inherently higher risk than an EV battery in a passenger vehicle. As a result, no additional storage assumptions need to be made for these types of EV batteries.

29. In response to Question 10 (IEPA Supp. Resp.), IEPA states that for cost of financial instruments it "would likely require facilities subject to this Part to acquire estimates

from hazardous material transportation companies to estimate the cost of removal."

a. Has the Agency developed any estimated removal cost assumptions for purposes of financial assurance under Part 1220, and if not, what basis did IEPA use to determine financial assurance requirements without such estimates?

Response: As Section 22.23f calls for regulations governing an activity previously unregulated under the Act, no such estimate exists for this Part. However, Illinois EPA reviewed removal cost assumptions for similar parts that regulate the storage of hazardous materials.

b. Please provide estimated removal costs for facilities storing approximately 5,000, 10,000, and 25,000 kilograms of used EV batteries, including the assumptions used.

Response: As Section 22.23f calls for regulations governing an activity previously unregulated under the Act, no such estimate exists.

30. How does IEPA intend for regulated entities to determine compliance expectations in advance of enforcement action or individualized agency interpretation, particularly where definitions, exemptions, or operational scenarios may be unclear?

Response: The rules as written establish clear guidelines for storage of used EV batteries. Illinois EPA does not anticipate regulated entities to be unclear on the compliance expectations.

31. Please describe how IEPA intends to address implementation and interpretation of Part 1220 following adoption, including how the Agency will develop, communicate, and ensure consistency of any guidance or interpretive materials used to support implementation, inspection, and compliance.

Response: Communication and implementation will follow the same procedures as other rulemakings initiated by the Agency.

32. In response to Question 13 (IEPA Supp. Resp.), IEPA recommends the addition of a new provision at Section 1255.205(i)(1).

a. Is a "registered design professional" a defined term?

Response: Section 4 of the Professional Engineering Practice Act of 1989 defines a "design professional" as an architect, structural engineer, or professional engineer practicing in conformance with the Illinois Architecture Practice Act of 1989, the Structural Engineering Practice Act of 1989 or the Professional Engineering Practice

Act of 1989. 225 ILCS 325/4(d).

b. If so, please provide any statutory or regulatory citation to that term.

Response: 225 ILCS 325/4(d).

c. Given the proposed renumbering of subsection (g), does the Agency agree that proposed subsection (i)(1) should instead be renumbered as subsection (j)?

Response: The Illinois EPA agrees.

d. In the Section 1220.205 preamble, should the requirements apply to "Owners and operators of any Used EV battery storage site must comply with the following requirements:"?

Response: Yes, the requirements as stated in Section 1220.205 should apply to Owners and Operators of any used EV battery storage site

33. Please state whether IEPA supports revising Section 1220.115 to define "Used EV battery storage site" as any facility, site, or location at which one or more used EV batteries are received, accumulated, held, or stored, whether on a temporary or permanent basis, in place of the current definition of "Battery storage site." If not, please explain IEPA's rationale and how it ensures consistent implementation of Part 1220.

Response: The Illinois EPA agrees. As a note, the definition of battery storage site included in Section 1220.115 is a direct restatement from Section 22.23f of the Act. The following change reflects the language added that was not included in the Act.

> *"*[Used EV] [*b*]*attery storage site" means* any facility, *site*, or location at which one or more *used EV batteries are stored*, whether on a temporary or permanent basis. [415 ILCS 5/22.23f(a)]

34. Section 22.23f(b)(3) of the Act provides that no person may operate a used EV battery storage site unless the person is an automotive parts recycler, as defined in Section 1-105.3 of the Illinois Vehicle Code, and licensed under Section 5-301 of the Illinois Vehicle Code.

a. Please explain whether IEPA intends to incorporate this statutory requirement expressly into Part 1220.

Response: Section 22.23f(b)(3) of the Act is directed towards facilities that contain

5,000 kilograms or more of used EV batteries. Illinois EPA has not incorporated this provision explicitly so as to not establish this as a requirement for facilities that do not store 5,000 kilograms or more of used EV batteries. However, this provision can be incorporated into Section 1220.205(g).

b. Please explain how IEPA intends to verify compliance with these licensing requirements for regulated storage facilities.

Response: If incorporating the above provision into Section 1220.205(g), proof of licensing can be required alongside the registration requirements of Section 1220.205(g), which provides that such facilities must register on forms and in a format designed by the Illinois EPA.

c. Please explain how IEPA intends to address facilities operating without the required automotive parts recycler licensure.

Response: Facilities containing less than 5,000 kilograms of used EV batteries do not require an automotive parts recycler license. For facilities over the threshold, any facility that operates without an automotive parts recycler license would have its registration denied along with letter of deficiency requiring an owner/operator to provide proof of licensure within a designated time period. Any facility that does not obtain such license would be in violation of Section 22.23f of the Act, and therefore subject to an enforcement action under Section 31 of the Act.

35. If Part 1220 adopts or relies on a definition of "electric vehicle" consistent with Illinois Department of Transportation (IDOT) classifications, please explain:

a. Identify which categories of equipment IEPA includes within, or excludes from, Part 1220, including passenger cars; passenger SUVs; delivery trucks; semi-trucks; garbage trucks; buses; motorcycles; scooters; construction equipment (e.g., electric loaders, forklifts); agricultural equipment (e.g., electric utility tractors, mowers); lawn care & outdoor power tools (OPE) (e.g., push mowers, leaf blowers, trimmers); home appliances/building electrification equipment; and any other motorized or mobile equipment that uses lithium-ion or other advanced battery chemistries used for propulsion or mobility applications.

Response: Illinois EPA considers only the following categories to fall under the definition of "electric vehicle" as used in this Part: (i) vehicles that are operated solely by electricity or a plug-in hybrid electric vehicle that operates on electricity and gasoline and has a battery that can be recharged from an external source, 625 ILCS 5/11-1308(a); and (ii) is not excluded under the definition of "motor vehicle" as defined in 625 ILCS 5/1-146. This exclusion applies to vehicles operated on rails, vehicles moved solely by human power, motorized wheelchairs, low-speed electric

bikes, and low-speed gas bikes.

This definition would include passenger cars, SUVs, delivery trucks, semi-trucks, garbage trucks, busses, motorcycles not under the definition of low-speed electric bikes, other vehicles that do not fall under the definition of low-speed vehicle (625 ILCS 5/1-140.7), agricultural equipment that does not fall under the definition of low-speed vehicle, and mobile homes that fall under the definition in 625 ILCS 5/11-1308(a).

b. Describe IEPA's evaluation of fire prevention, explosion risk, and environmental impacts associated with lithium-ion and other advanced batteries used in non-road or non-vehicle applications, and how those evaluations inform IEPA's determination of the scope of Part 1220.

Response: Illinois EPA has evaluated the risk of lithium-ion and other battery chemistries in non-vehicle applications, such as battery energy storage sites, for the difference in risk for batteries under electrical load, spacing and storage risks for fire or explosion, and fire prevention and treatment methods. However, as Section 22.23f of the Act limits this rulemaking to only sites containing used EV battery storage sites, which is defined separately from battery energy storage sites, Part 1220 is limited only to sites storing used EV batteries that are not actively charging or discharging according to the authority granted under the Act.

c. Describe the factors IEPA considered in determining the scope in subpart (a), including fire risk, explosion risk, environmental impacts, battery chemistry, form factor, and storage and handling conditions, and end-of-life pathways across the identified categories.

Response: In determining the scope in subpart (a), the Illinois EPA considered the explosion and fire risk of EV batteries, including the risk of fire spread within a used EV battery storage site, the environmental impacts of EV battery fires or explosions, battery chemistry types and the impacts on fire treatment and containment, storage conditions, and the interaction with end-of-life pathways, particularly battery recycling.

d. Clarify whether batteries associated with equipment or applications outside of IDOT's classifications are intended to be included within, or excluded from, the scope of "used EV batteries" under Part 1220, and the basis for that such determination.

Response: Batteries associated with equipment or applications outside of the IDOT classifications referred to in Response to Question 35 are intended to be excluded from the scope of Part 1220. The basis for this determination is that Part 1220 is

only able to regulate EV batteries, as defined in Section 22.23f of the Act. Section 22.23f of the Act does not provide additional authority to include any other types of batteries within this rulemaking.

e. Whether IEPA considered addressing such batteries under Part 1220 or through coordination with other applicable environmental, hazardous waste, transportation, fire safety, or site remediation regulatory programs.

Response: The Illinois EPA considered addressing such batteries under Part 1220, but determined it is unable due to the language of Section 22.23f of the Act. Other such batteries may still be regulated under other applicable environmental, hazardous waste, transportation, fire safety, or site remediation regulatory programs. Additionally, Illinois EPA has reserved space in Part 1220 for future amendments to address end-of-life or second-life uses of used EV batteries, and additional space exists in Subtitle K for future regulations on other types of batteries and their uses, such as battery energy storage systems.

36. Please review the definitions in Section 1220.115, including “electric vehicle,” “Used EV battery,” and “Used EV Battery Storage Site,” and explain whether any revisions are necessary to ensure the definitions are consistent, complete, and operable for purposes of implementing Part 1220. In particular, please address whether the definition of “Used EV battery” appropriately captures the intended scope of regulated batteries across the categories of vehicles and equipment addressed in this rulemaking.

Response: The current definition of “used EV battery” encompasses all the batteries the rule intends to cover. However, as this Part is intended to regulate the storage of used EV batteries prior to recycling or a second-life usage, the definition can be better clarified that it does not include other batteries that are not whole (i.e. batteries that are damaged, cracked, or leaking) to ensure that batteries that are not intended to be regulated are not included under this Part. The Illinois EPA proposes the following additions:

> "*Used* [EV] *battery*" *means an EV battery that is sold, given, or otherwise conveyed to a battery storage site.* [415 ILCS 5/22.23f(a)]. This term includes~~, but is not limited to,~~ uninstalled EV batteries that are sent by the manufacturer or another person for recycling ~~rather than installed in an electric vehicle~~ and EV batteries removed from an electric vehicle at the battery storage site. This term does not include any batteries that are damaged, cracked, or leaking.

37. Please review the proposed rule text and identify any instances in which defined terms or their abbreviations (e.g., electric vehicle and EV) are not used consistently after their initial definition or abbreviation, including any subsequent use of the full term in place of

the abbreviation or any deviation from defined usage.

Response: The amended proposal has been reviewed for consistency, and is attached to this document as Attachment B. Please note, the Attachment B retains all previous redlines and includes any new changes regarding consistent use of terms.

38. Question 18 (IEPA Supp. Resp.) asks IEPA if the rules allow the Agency to do a case-by-case analysis of the stability of battery piles if they are stacked too high. If so, under what provision of the rule will the Agency do that kind of case-by-case evaluation? *See* Tr. at 83-84. IEPA responds with a proposed amendment at Section 1220.205(j), which allows for inspection by the Agency or local fire departments, either upon the request of the facility or by request of the Agency or local fire department. Also, subsection (j)(1) requires the used EV battery storage site to modify its storage methods to comply with the local fire department's needs for fire or explosion response.

a. Please comment on whether the rule should also allow the Agency to suggest any modifications based on its inspection of the used EV battery storage site.

Response: Based on communications with experts in the industry, the Illinois EPA believes its changes to battery pile height requirements address any issues with battery pile heights. Such changes include limits on piles based on fire suppression system used (i.e. room-wide sprinkler system or per rack fire suppression system), and 35 foot height limits for rack systems with integrated per-rack fire suppression systems.

However, while Illinois EPA intends for required modification to be driven primarily by local fire departments to ensure they can adequately address a battery fire or explosion event, Illinois EPA does not oppose allowing the Agency to suggest modifications based on site inspections.

b. If so, comment on whether the following changes are acceptable to the Agency (For purposes of this question, references to proposed subsection (j) assume adoption of the prior renumbering amendment, under which subsection (j) would become subsection (k)):

~~J~~k) Owner or operator of a ~~U~~ used EV battery storage site~~s~~ must make the ~~used EV battery~~ storage site available for inspection by the Agency or local fire departments, either upon the request of the facility or by request of the Agency or local fire department.

1) Upon inspection, ~~by~~ a local fire department~~, it~~ may determine if a facility is storing used EV batteries in a manner that allows emergency responders to safely respond to a fire or explosion incident. If a local fire department determines that the used EV battery storage site's storage methods would

not allow the local fire department to address a fire or explosion, the owner or operator of the used EV battery storage site ~~shall~~ must modify ~~its~~ the storage method~~'~~s to comply with the local fire departments needs for fire or explosion response.

2) Upon inspection, ~~I~~ if the Agency determines that a used EV battery storage site contains 5,000 kilograms or more of used EV batteries, the owner or operator must comply with the additional requirements applicable to used EV battery storage site with 5,000 kilograms or more of used EV batteries under this Part. This Agency determination ~~the used EV battery storage site~~ may be appealed to the Board as an Agency Final Decision under 35 Ill. Adm. Code 105.

Response: The Illinois EPA does not oppose the suggested changes.

39. In response to Question 34 (IEPA Supp. Resp.), IEPA proposes an additional provision at Section 1220.205(j)(2) and changes to Section 1220.615.

a. Whether IEPA agrees that, consistent with subsection 1220.205(j)(1), the appeal language in proposed subsection (j)(2) should be tied to an Agency inspection.

Response: The Illinois EPA agrees that appeals can be tied Agency inspections of either a used EV battery storage site's facility or its records.

b. If not, please explain IEPA's rationale.

Response: See Response to Question 39(a).

c. If so, please comment on whether IEPA finds the following revisions to subsection (j)(2), shown under Question 35, acceptable. (Note: subsection (j) would be renumbered as subsection (k), to reflect these changes).

Response: The Illinois EPA finds the revision to subsection (j)(2) and the renumbering to subsection (k).

d. Also, in Section 1220.615(c), please provide cross references to the specific provision in the proposed rules for each of the six Agency's appealable decisions.

Response: The six appealable decisions under Section 1220.615(c) are appealable under 35 Ill. Adm. Code 105, as stated in Section 1220.615(c). This language is consistent with appeal sections of other Parts in the Illinois Administrative Code.

40. What considerations, if any, did IEPA take into account regarding protection of public health and the environment in developing the scope and requirements of Part 1220, including potential impacts associated with battery reuse, second-life applications, grid-support storage, recycling or materials recovery, and in-state economic development?

    Response: The Illinois EPA considered public and environmental health in developing Part 1220. However, due to the limited authority under Section 22.23f of the Act, Illinois EPA has not included provisions regarding battery reuse, second-life applications, grid-support storage, recycling or materials recovery. In-state economic development was limited to used EV battery storage sites, with the understanding that expanding used EV battery storage would be associated with development in recycling and alternative uses of end-of-life EV batteries.

41. What outreach has IEPA conducted with automakers, battery recyclers, utilities, repurposing companies, local governments, and emergency responders during development of this proposal, and what key concerns or recommendations emerged through that process?

    Response: Illinois EPA has provided industry representatives with copies of and notice of this rulemaking, with the expectation that industry representatives would provide feedback on the proposed regulations. Illinois EPA has also communicated with industry experts and fire safety experts, including local fire departments, in advancing this rulemaking. Some key concerns or recommendations that have arisen from those communications include storage height requirements, fire suppression systems, proper ventilation for battery gasses in both indoor and outdoor storage, and facility types that store used EV batteries.

42. In response to Question 12 (IEPA Supp. Resp.), IEPA does not recommend incorporating NFPA 855 into the rules "due to the differences between an actively charging/discharging and used EV batteries that are not being actively used." IEPA states that a new standard is being developed, NFPA 800, which "will likely be applicable." In the Office of the State Fire Marshal's (OSFM) public comment, they indicate that NFPA 800 will be finalized "later in 2026". Does IEPA intend to propose incorporating NFPA 800 into the rules after it is finalized?

    Response: The Illinois EPA intends to review NFPA 800 when it is finalized for any applicable portions that can be incorporated into Part 1220.

43. OSFM recommends consideration of Factory Mutual Insurance Company's (FM's) "FM Loss Prevention Data Sheet 7-112, Lithium-Ion Battery Manufacturing and Storage." PC1 at 1.

a. Has IEPA reviewed this document?

Response: The Illinois EPA has reviewed this document. Some recommendations of this manual have been taken into consideration along with input from industry experts.

b. Please comment on and explain whether this document should be incorporated by reference as recommended by the OSFM, or otherwise considered in developing the storage, fire prevention, or emergency response requirements under Part 1220.

Response: See answer to Question 43(a). The Illinois EPA does not feel this document needs to be explicitly referenced for these rules.

44. Has IEPA reviewed FM's April 2026 revision of "Property Loss Prevention Data Sheet 5-33, Lithium-Ion Battery Energy Storage Systems"?

a. If so, please comment on and explain whether the Agency believes there is merit to considering FM Data Sheet 5-33 or other FM guidance in evaluating the adequacy of the proposed fire protection and battery storage standards under Part 1220.

Response: The Illinois EPA primarily utilized NFPA 855 to craft these rules as the minimum standards that may be enforced by the Illinois EPA, local fire departments, or the Office of the State Fire Marshall. This also offers businesses and the industry some flexibility based on testing and allows the potential use of future innovative technologies that may not exist today. FM 5-33 is a more conservative and prescriptive recommendation for minimizing property losses. Businesses may opt to use the stricter recommendations of 5-33 should they choose or if their insurance policies dictate it.

b. If so, please also explain whether the Agency intends to propose incorporation by reference of FM Data Sheet 5-33 or any other FM guidance to Part 1220.

Response: Please see answer to question 43(b).

45. The Agency proposes to include height requirements for used EV battery storage racks at Section 1220.210(c)(7)(B). However, OSFM's public comment states "used EV batteries shall not be stored on racks" based on guidance from FM 7-112.

a. Does IEPA object to removing rack storage authorization for used EV batteries consistent with OSFM's recommendation?

Response: Based on Illinois EPA's communications with industry experts, Illinois EPA does not oppose rack storage so long as it meets fire safety requirements, such as per rack fire suppression systems. Further, the OSFM comments references FM 7-112 as basis to remove rack storage. FM 7-112 2.4.6.3 concerns storage of defective batteries specifically, which is not the intended scope of this Part. *See* Response to Question 36. Subpart A further clarifies, "Limit indoor storage height to one pallet height. If greater heights are needed, put the storage in open-frame racks." Subpart B further specifies requirements for rack fire suppression.

b. If so, please explain IEPA's rationale for retaining the proposed rack storage provision.

Response: See Response to Question 45(a).

c. If IEPA retains the proposed rack storage provision, has it considered additional fire protection measures, including rack-level suppression, detection systems, or compartmentalization, are necessary to address delayed fire propagation in rack storage configurations?

Response: Yes, Illinois EPA intends for any rack storage to also require rack-level fire suppression systems alongside set heigh limits for rack based storage.

d. If not, does IEPA intend to revise Section 1220.210(c)(7)(B) to prohibit rack storage consistent with OSFM's recommendation?

Response: Illinois EPA has revised Section 1220.210(c)(7)(B) based on the information included in the Responses to Question 45(a)-(c). *See* Attachment B, Section 1220.210(c)(7)(B), pg. 64.

46. For EV batteries stored in piles, how has IEPA addressed concerns regarding safety, thermal management, and scalability?

Response: The storage requirements of Part 1220 address safety and thermal management by requiring safe storage practices to prevent and minimize the impacts of battery fires, explosions, and buildup of harmful gasses. Used EV batteries stored under the requirements of Part 1220 would face less risk of fire spread and would provide time for emergency responders to treat any battery fire before it can spread to other stored used EV batteries or throughout the site. Scalability is addressed by allowing both vertical and horizontal expansion of storage sites, both indoors and outdoors, to allow more batteries to be stored while maintaining safety requirements to prevent and minimize the impacts of battery fires or explosions.

47. OSFM recommends adding language that considers the charge status of the stored batteries. PC1 at 2. The reasoning being that drained batteries limits "potential issues from having charged batteries that could contribute power/ignition and spark the beginning of a fire."

    a. Has IEPA considered charge status as a factor in the proposed used EV battery storage standards?

       Response: Illinois EPA has considered charge status as a factor in developing the proposed used EV battery storage standards.

    b. If so, please explain how the proposed rules address this factor.

       Response: See Response to Question 47(c).

    c. If not, explain the rationale for not considering the charge status in proposed rules.

       Response: Illinois EPA has not explicitly included charge status in the proposed rules due to the variability in sites that may be storing used EV batteries. Illinois EPA understands that not all sites that may be storing used EV batteries, especially small businesses storing a small amount of used EV batteries, are equipped to properly and safely discharge used EV batteries. Due to the added risk in discharging a used EV battery when proper equipment is not available, Illinois EPA did not want to impose such requirements that could lead to greater risk of fire or danger for personnel.

       However, Illinois EPA does not oppose including such a requirement for facilities storing 5,000 kilograms or more of used EV batteries under Section 1220.205(g).

48. OSFM recommends amending Section 1220.210(c)(3) as follows: "Rooms where used EV batteries are stored shall contain a fire alarm system activated by an air-aspirating smoke detector system, installed in accordance with NFPA 72, National Fire Alarm and Signaling Code, or a radiant-energy detection system with occupant notification. Does IEPA have any objection to including OSFM's amendment? If so, please explain.

    Response: Illinois EPA has no objection to OSFM's suggested amendment.

49. Please explain the fire prevention and emergency response framework IEPA evaluated for used EV battery storage under Part 1220, including the role of detection, suppression, containment, ventilation, storage configuration design, and emergency response access in addressing fire and thermal runaway risks.

Response: The Illinois EPA consulted with the Morris Fire Chief and an industry expert on evaluating adequate response protocols and protections to respond to an incident. Both experts provided input to the Illinois EPA to further streamline these requirements to prevent large scale incidents of fire. One key edit to the rules the Illinois EPA has proposed includes ventilation requirements for each of the 900 square foot rooms and storage containers. Both experts insisted providing ventilation for rooms and sealed containers was a requirement to minimize property losses should a thermal runaway event occur.

50. In response to Question 51 (IEPA Answers), IEPA states that runoff capture is required and that disposal must comply with applicable Illinois regulations, including 35 Ill. Adm. Code Part 309.

    a. Please identify the specific provisions of Part 309 that IEPA believes apply to runoff generated from fire suppression, fire response, or battery-related incidents under Part 1220.

       Response: Compliance to Part 309 would follow protocol of similar incidents in other industries. Each potential release or incident would have to be evaluated at that time to determine which portions of Part 309 need to be enforced.

    b. Please explain how runoff management requirements would apply to facilities that are not otherwise subject to NPDES permitting requirements.

       Should an off-site impact or release occur, the Illinois EPA would evaluate the individual situation and determine the extent of impact. The Illinois EPA would determine at that time what provisions need to be enforced. The Illinois EPA does not believe an NDPES permit is required for these types of facilities since they normally should never have a discharge if operating within the parameters of these rules.

    c. Please explain whether IEPA considered including express runoff containment or runoff management requirements within Part 1220.

       Response: The Illinois EPA considered explicit language on runoff containment but determined that indoor storage or outdoor containerized storage would generally contain runoff in most circumstances. Additionally, any runoff management required due to released runoff would be handled as an enforcement action.

51. Regarding the response to Question 14 (IEPA Supp. Resp.), does the Agency intend to make any examples, templates, or guidance regarding deflagration analysis available for review before the end of the post hearing comment period? If so, when and in what form?

Response: Illinois EPA intends to make any examples, templates, or guidance regarding deflagration analysis available as soon as possible. However, Illinois EPA has no estimation on when any such example, template, or guidance will be available.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
Trevor D. Dell'Aquila
Assistant Counsel
Division of Legal Counsel

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	R2026-017
PROPOSED 35 ILL. ADM. CODE	)	
SUBTITLE K: RECYCLABLE, RECLAIMABLE, OR	)	
REUSABLE WASTES, CHAPTER I POLLUTION	)	
CONTROL BOARD, PART 1220 MANAGEMENT	)	
OF USED EV BATTERIES	)	

CERTIFICATE OF SERVICE

I, the undersigned, an attorney, state the following:

I have served the attached Illinois Environmental Protection Agency's Pre-Filed Responses to the Illinois Pollution Control Board's May 19, 2026 Hearing Officer Order upon the following:

See attached Service List

I affirm that my e-mail address is trevor.dellaquila@illinois.gov; the number of pages in the e-mail transmission is 83; and the e-mail transmission took place before 5:00 p.m. on June 2, 2026.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL
PROTECTION AGENCY

By: /s/ Trevor D. Dell'Aquila
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Attachment A

White Paper Summarizing Existing Battery Labeling Requirements and Standards

U.S. Environmental Protection Agency
Office of Resource Conservation and Recovery

January 2025
EPA 530-R-25-004

Contents

Abbreviations

ANSI	American National Standards Institute
ARA	Automotive Recyclers Association
BCI	Battery Council International
BIL	Bipartisan Infrastructure Law
Cd	cadmium
CPSC	U.S. Consumer Product Safety Commission
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
EOL	end-of-life
EPA	U.S. Environmental Protection Agency
EPR	extended producer responsibility
EU	European Union
EV	electric vehicle
HEV	hybrid electric vehicle
IEC	International Electrotechnical Commission
ISO	International Organization for Standards
LMT	light means of transport
LIB	lithium-ion battery
NFPA	National Fire Protection Association
Ni-Cd	nickel-cadmium
NSVRP	National Salvage Vehicle Reporting Program
Pb	lead
PHEV	plug-in hybrid electric vehicles
QR	quick response
RFI	request for information
RFID	radio frequency identification
SAE	Society of Automotive Engineers
SSLA	small sealed lead-acid
SLI	starting, lighting, and ignition
UL	Underwriters Laboratories
ZEV	zero-emission vehicle

1 Introduction

A clean energy transformation is underway. As the United States rapidly transitions away from fossil fuels, renewable energy sources are seeing unprecedented growth. Batteries play a central role in this transformation. They power everything from cars and trucks to electric bikes (e-bikes) and consumer electronics. They are also used in many industrial applications, from powering construction and agricultural equipment to providing backup power for critical infrastructure and storing energy for renewable power generation. As battery use increases globally, so does the demand for critical materials needed to manufacture single-use and rechargeable batteries. To reduce global reliance on the mining of virgin raw materials, including cobalt and lithium, the United States will need to increase the recovery of these critical materials from end-of-life (EOL) batteries. However, increasing these recovery rates will require overcoming the current technological, economic, regulatory, and social barriers to the safe collection and recycling of batteries. Today, many batteries are disposed of in municipal solid waste or recycling because consumers lack information on how or where to properly manage them. Products containing embedded batteries are often disposed of in municipal solid waste because consumers are unaware of the presence of a battery.

Sections 70401 and 40207 of the Bipartisan Infrastructure Law (BIL) direct the U.S. Environmental Protection Agency (EPA) to address these challenges along the battery life cycle through the development of voluntary battery labeling guidelines, battery collection best practices, consumer education materials, and a national extended producer responsibility (EPR) framework for batteries drafted in close coordination with the U.S. Department of Energy (DOE).[1] Together, these efforts will help state, local, and Tribal governments establish and improve battery collection programs and help consumers more easily participate in proper battery EOL management, reducing the frequency of safety incidents from improper battery disposal (e.g., fires at waste management facilities).

By developing new voluntary battery labeling guidelines, EPA seeks to increase consumer awareness of the presence of batteries in products and to empower consumers to properly dispose of them, depending on their local collection programs. Additionally, EPA aims to increase the proper identification and handling of batteries in battery collection, sorting, and processing facilities, which should improve the safety of facility staff and also increase the recovery of critical materials within the developing U.S. battery recycling infrastructure. These activities are essential to advancing the circular economy for batteries and strengthening the U.S. supply chain for critical materials.

The information in this white paper serves as foundational research to inform the development of the forthcoming voluntary battery labeling guidelines as mandated by the BIL. This white paper synthesizes the key findings from existing battery labeling guidelines to identify key information needs for EPA's voluntary battery labeling guidelines and ensure alignment with U.S. and international battery-related mandates, including:

- U.S. federal battery labeling requirements, including those in the 1996 Mercury-Containing and Rechargeable Battery Management Act (Battery Act).
- U.S. state EPR laws that include battery marking or labeling requirements.
- International battery labeling laws from the European Union (EU) and Japan.
- Voluntary battery labeling recommendations and guidelines.

This white paper is not a policy declaration by EPA, nor does it set forth any voluntary or required labeling standards, recommendations, or guidelines. This white paper is intended as a reference material only. Inclusion of any standard in this paper does not constitute an endorsement from EPA. The findings from EPA's research activities are not intended as a comprehensive overview of all existing battery labeling standards and mandates;

rather, they are meant to provide the necessary context to develop consistent voluntary battery labeling guidelines and education on safe use, handling, storage, disposal, and EOL management for all battery types.

2 Considerations for Battery Labeling

BIL Section 70401 requires EPA to develop voluntary battery labeling guidelines consistent with existing U.S. federal battery labeling requirements in the 1996 Battery Act and with international battery labeling standards. Because the BIL does not specify the types of information that should be included in the forthcoming voluntary battery labeling guidelines, EPA first compiled a breakdown of the types of information that are often included in existing labeling guidelines, as shown in Table 1.

Table 1: Information in Existing Battery Labeling Requirements and Labeling Guidelines

Type of Information	Description
Applicability	Battery types, uses, or chemistries covered by the existing labeling requirement or voluntary standard.
Production	General product information such as the product name; manufacturer name and contact information; packer, distributor, importer, or seller; country of origin; and production date.
Battery-specific	Details about the battery, including the battery chemistry (e.g., color coding, chemical symbols); cathode and anode identifiers (for lithium-ion batteries [LIBs] only); voltage; capacity; model number; polarity; and non-spillable markings.
EOL management	Information or instructions on how to properly dispose of the battery. This may include recycling symbols (e.g., the “chasing arrows” symbol, the crossed-out wheeled bin) and/or disposal and recycling instructions for consumers.
Safety	Information aimed at reducing safety risks during use, storage, and/or disposal of batteries or battery-containing products. This may include general warnings, handling recommendations, and cautionary statements, as well as symbols, markings, or warnings for dangerous goods and hazardous materials.
Transportation	Information about the safe transport of batteries and battery-containing products. This may include references to U.S. Department of Transportation (DOT) requirements for shipments of new, used, and EOL batteries.
Refurbishment and recycled content	Information used to signal that a battery may contain a certain percentage of recycled material or that a product may contain a refurbished battery.
Physical placement and size of the label	Instructions on the placement and size of a physical label and on the use of virtual information collection. Label placement depends on the battery’s size; where it is located within the product, vehicle, or equipment; and whether it is embedded (i.e., one that has been placed permanently into a product and is not intended to be removed by the consumer).
Label design	Design elements including the color of the label font and/or background, as well as the font type and size. Design elements are often tied to specific label content, including safety warnings, battery chemistry, and EOL management.
Label durability	Specifications about the durability of the label, which may include a specification that the label should last the entire life cycle of a battery or product.

Based on feedback from EPA's virtual working sessions and responses to the request for information (RFI) that EPA issued in 2022, EPA focused its labeling research on battery-specific information, safety, and EOL management, as well as label design and durability. These pieces of information are needed to meet the stated purpose of the guidelines, which is to increase battery recycling and reduce safety incidents. EPA reviewed U.S. federal and state labeling requirements, international requirements, voluntary labeling standards, and other relevant standards with this key information in mind. The next several sections summarize EPA's findings on how existing requirements and standards address the need for communicating battery-specific information and information on safety and EOL management via battery labeling. These findings also provide insights into how current standards may align or conflict.

3 U.S. Federal Battery Labeling Requirements

This section reviews U.S. federal requirements for battery labeling. EPA did not attempt to cover all labeling requirements for batteries and battery-containing products but focused its research on reviewing labels that might be relevant for alignment with the BIL mandates. In the United States, lead-acid, nickel-cadmium (Ni-Cd), and LIB chemistries are currently subject to national labeling requirements. Additionally, button cell and coin batteries and products that contain these batteries are subject to warning labels for child safety.

3.1 The Mercury-Containing and Rechargeable Battery Management Act (1996)

The 1996 Battery Act phased out the use of mercury-containing batteries and aimed to improve the collection, recycling, and labeling of Ni-Cd and lead-acid batteries. Under the Act, manufacturers are required to include a label on removeable batteries and on battery-containing products with non-removeable batteries if they are regulated by the Act. Specifically, the Battery Act requires that labels for Ni-Cd and small sealed lead-acid (SSLA) batteries display the following: the chasing arrows, the chemical name (for regulated batteries), and certain phrases for proper disposal such as "BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY." For mercuric-oxide batteries, the label must direct consumers to a collection site and provide a phone number for consumers to call for information about proper disposal. The Battery Act has a provision that gives EPA the authority to determine through rulemaking if additional battery chemistries are covered by the Act. The requirements in the Battery Act specifically target retailers, manufacturers, and battery handlers, and are further summarized in Table 3 in Section 8.[2]

3.2 Call2Recycle Recycling Labels (1998)

Although the 1996 Battery Act was a major milestone in battery recycling, it did not include key labeling information for consumers and battery consolidators that would help facilitate recovery (e.g., information on the cathode, anode, and electrolyte, and EOL management information). To address this concern, in 1998 EPA partnered with the Rechargeable Battery Recycling Corporation (now Call2Recycle) and announced the certification of a new label for rechargeable batteries and their packaging to reduce consumer confusion around proper disposal of EOL rechargeable batteries. As presented in Figure 1, the labels provided a toll-free number

that consumers could call for more information on how to dispose of the battery properly.[3]

Figure 1: Call2Recycle recycling labels. *Source: Call2Recycle, 1998.*[4]

3.3 Reese's Law (2022)

Passed in 2022, Reese's Law provides standards related to human safety. Specifically, Reese's Law aims to prevent the ingestion of button cell or coin batteries and products containing these batteries.[6] Reese's Law required the U.S. Consumer Product Safety Commission (CPSC) to promulgate a rule for safety performance and labeling of products and packaging.[6] In the final rule, 88 FR 65296, effective September 21, 2024, CPSC required warning labels on the packaging of all button cell and coin batteries; on the packaging of all products containing button cell or coin batteries; in accompanying literature (including user manuals) with relevant batteries and products; and directly on products containing button cell or coin batteries where practical (see Figure 2). Reese's Law and the final rule promulgated by CPSC do not require the label to include battery-specific information or information on production, EOL management, or transportation. However, the warning symbol is intended to help alert consumers to the presence of a battery, which could assist with recycling or EOL management options once consumers identify the battery that needs to be managed.

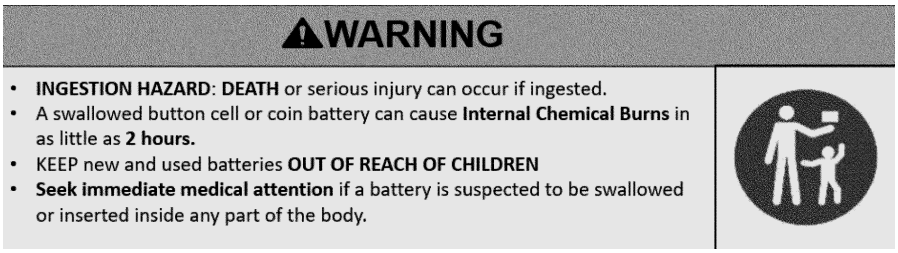

Figure 2: Label for button cell and coin batteries, warning of ingestion hazards. *Source: CPSC, 2023.*[5]

3.4 Transportation Labeling for Lithium-ion Batteries

Transportation labeling is not a key focus of this white paper because labeling requirements for international transportation of batteries are established by the International Civil Aviation Organization's Technical Instructions, by the International Air Transport Association's Dangerous Goods Regulations, and by the International Maritime Dangerous Goods Code. Additionally, country-specific regulations are enforced by the country that enacted them. The U.S. DOT regulates domestic shipments of lithium-ion cells and batteries and enforces international shipping requirements and U.S. laws on movements of hazardous materials, including LIBs and lead-acid batteries.[7,8] DOT developed a guide for shippers of LIBs, which provides instructions and examples of labels needed for shipping LIBs and products packed with or containing batteries. The DOT guide includes information on exceptions for batteries being shipped for disposal or recycling. It also helps shippers identify correct packaging for LIBs.

Some battery collectors like Call2Recycle have worked with DOT to ensure that LIBs shipped for recycling are properly labeled. Call2Recycle was issued a DOT special permit that allows the organization and its partners to ship batteries via a specialized collection box.[9] The Call2Recycle battery collection partnership programs ensure proper handling and recycling of batteries by equipping partner locations with materials for collection and shipping, including the label seen in Figure 3.[9] Call2Recycle's shipping label focuses on safety by identifying that a battery is present and should be handled properly.

Figure 3: Call2Recycle shipping label.
Source: Call2Recycle, n.d.[9]

4 State-Level Battery Labeling Requirements

In the United States, state-level battery labeling requirements are emerging. The EPR laws and accompanying rulemakings that create labeling requirements differ across states, producing variations in state requirements. For example, states may include different information on the label or use various means to communicate the required information (e.g., use of different symbols for management). Adopted in 2022, California's Advanced Clean Cars II New Vehicle Battery Labeling Requirements are the most comprehensive labeling mandates in terms of the information required, but they only apply to large format vehicle batteries.[10] Other California battery-related laws—the California Responsible Battery Recycling Act of 2022 and the California Electronic Waste Recycling Act of 2003—apply to small format batteries and battery-containing products.[11,12] Recent legislation from Washington and Illinois extends labeling requirements to a combination of small, mid-, and large format batteries and embedded batteries as described in Table 2.[13] Many other states have passed laws related to retail collection of used batteries and required signage to educate consumers about EOL battery management, but these laws do not address labeling.

The Advanced Clean Cars II, Title 13, Section 1962.6 outlines battery label requirements for zero-emission vehicles (ZEVs), plug-in hybrid electric vehicles (PHEVs), and hybrid electric vehicles (HEVs) for sale in California.[10] The regulation requires battery labels to contain the following: a chemistry identifier, the minimum voltage of the battery pack, the battery capacity, and a digital identifier. Additionally, the regulation requires labels in the following locations: (1) the exterior of the battery or each portion of the battery pack, and (2) a visible location in the engine compartment, powertrain, or cargo compartment, or on the driver's side doorjamb.

As of November 2024, 11 states and the District of Columbia have battery EPR laws applicable to primary and/or rechargeable batteries.[14] These EPR laws focus on establishing stewardship programs to increase the recycling and collection of batteries. Three state-level battery EPR laws—those in California (2022), Washington (2023), and Illinois (2024)—include labeling or marking requirements. Consistent across all three EPR laws is the

requirement that batteries sold within the state include the battery chemistry on the label, as well as symbols or indicators signaling that consumers should not dispose of the batteries as household waste. However, labels are not required to provide information for consumers on where to recycle their batteries. The Washington and Illinois laws note that the state rulemaking agencies may amend the labeling requirements to remain consistent with any labeling requirements or voluntary standards established by federal law.[11,13,15]

Table 2 presents select examples of state laws that require battery labeling.

Table 2: Examples of U.S. State Laws Requiring Battery Labeling

State Law	Applicability	Label Content and Placement Requirements
California Advanced Clean Cars II New Vehicle Battery Labeling Requirements[10]	Applies to large format vehicle batteries for electric vehicles (EVs), ZEVs, HEVs, and PHEVs.	Battery chemistry; cathode and anode; and manufacturer and date of manufacture, as stated in the Society of Automotive Engineers (SAE) standard J2984. The label must be on the exterior of the battery to be clearly visible and accessible when the battery is removed from the vehicle.
California Responsible Battery Recycling Act of 2022[11] (EPR)	Applies to small format primary batteries only.	Battery chemistry; language indicating that the battery should not be placed in household waste. The law does not specify where to place the label.
California Electronic Waste Recycling Act of 2003,[12] amended by Senate Bill 1215	Applies to all battery-containing products.	Battery chemistry (information can be presented either on the product label or on the manufacturer's website). The law states that the label must be clearly visible.
Washington Battery Stewardship Law[13] (EPR)	Applies to primary and rechargeable small, medium-, and large format batteries and battery-containing products.	Producer information, as size allows. Starting in 2030, all new applicable batteries must be labeled to ensure collection and recycling. Labels must identify the chemistry of the battery and an indication that the battery should not be disposed of as household waste. The law does not specify where to place the label.
Illinois Portable and Medium-Format Battery Stewardship Act[15] (EPR)	Applies to primary and rechargeable small and medium-format batteries and battery-containing products.	Starting in January 2029, producers and retailers may only sell small and medium-format batteries and battery-containing products if the battery is marked with a label that identifies battery chemistry and indicates that the battery should not be placed in household trash or recycling.

New York's Rechargeable Battery Recycling Law, passed in 2010, requires manufacturers to provide retailers with information on how to safely handle and store rechargeable batteries, but it does not include specific battery labeling requirements.[16] Retailers are required to post point-of-sale signs in their stores notifying consumers about the state's disposal ban and advising consumers to recycle batteries at the retailer's location.[17] Forty-five states have implemented similar laws requiring lead-acid battery retailers to accept lead-acid batteries from consumers and deliver them to recycling facilities. Of these states, 30 require retailers to post an educational sign at the point-of-sale location, informing consumers about the proper disposal method for lead-acid batteries. In some states, the chasing arrows symbol is required. The required language for this educational sign varies among states, but the message that producers and retailers are responsible for lead-acid battery recycling remains consistent.[18]

5 International Battery Labeling Requirements

This section reviews battery labeling requirements from the EU and Japan, in consideration of the BIL's mandate to develop voluntary U.S. battery labeling guidelines that align with existing international standards. Several key features of the labeling requirements from these countries could serve as examples for EPA's development of voluntary guidelines for the United States.

5.1 European Union Batteries Regulation (2023)

In 2006, the EU adopted a Batteries Directive, applicable to all member states, that regulates battery production and disposal and requires the use of a symbol for the separate collection of batteries (see Figure 4). The EU enacted the 2023 Batteries Regulation that will repeal the 2006 Batteries Directive as of 2025. The 2023 EU Batteries Regulation does the following:

- Provides additional requirements regarding sustainability, EPR, safety, markings, information, and labeling.[19,20]
- Updates the 2006 labeling requirements to include additional details on capacity, battery chemical composition, carbon footprint values, and handling instructions.[19,20] These new labeling requirements, outlined in Annex VI of the regulation and summarized in Table 3 at the end of this document, go into effect between 2025 and 2026.[20]
- Requires that every EV battery and industrial battery with a capacity of over 2 kilowatt-hours should have an EU "battery passport," an official document that will accompany the battery throughout its entire life cycle, from production to disposal.[21] The battery passport will contain vital information about the battery, including its composition, capacity, voltage, and other specifications. The EU battery passport is one example of how labels can be used to share information along a product's value chain.

Figure 4: EU symbol for separate collection of batteries. ***Source: EU Battery Regulation 2023/1542, 2023.***[20]

5.2 Battery Association of Japan Labeling Requirements (2000)

Japan established the Law for the Promotion of the Effective Utilization of Resources in 2000. The law required manufacturers to indicate on labels how to properly recycle applicable batteries.[22] To meet the requirements of the law, the Battery Association of Japan specified labeling requirements for batteries to improve recycling; however, there are limited studies on the impact of the labeling requirements on recycling rate. Labels provide information for EOL management, identify battery chemistry through color coding, and identify toxic or hazardous substances. The color scheme for identifying chemistry aligns with the following voluntary standards, which are discussed in Sections 6.1 and 7.

6 Voluntary Battery Labeling Standards

This section provides an overview of voluntary battery labeling standards, including globally recognized industry standards from organizations such as SAE International, Battery Council International (BCI), and the Automotive Recyclers Association (ARA).

6.1 Society of Automotive Engineers International Standards

SAE International is a global association of engineers and technical experts that develops voluntary consensus standards. For the automotive industry or ground vehicle category, SAE has developed over 8,000 standards applicable to various components of cars, including batteries. EPA reviewed SAE standards J2936 and J2984 because these provide a consistent recommendation for identifying the battery chemistry and including color coding, the chasing arrows, and safety information in alignment with U.S. and international requirements. However, industry experts participating in EPA's battery collection and recycling working sessions noted that the SAE recommendations have not yet been widely implemented. SAE J2936 and J2984 are summarized in Table 3 at the end of this document.

SAE J2936-201212 Electrical Energy Storage Device Labeling Recommended Practice[23] is a comprehensive reference guideline for labeling any device used for energy storage, including "cell, battery and pack level products used in mobility, stationary and secondary use applications." The information in these labeling recommendations is intended for the automotive sector but is written for "anyone working in the field of energy storage devices." The guideline recommends including the chasing arrows symbol and a chemistry identifier on the label, with the chemistry denoted using the practice described in J2984. The recommended practices also note other labeling information required by country, as well as practices recommended by the industry.

SAE J2984-202109 Chemical Identification of Transportation Batteries for Recycling[24] is referenced in the J2936 guideline and offers a standardized way for rechargeable transportation battery manufacturers to denote chemical composition using the system chemistry, cathode material identifiers and sub identifiers, anode active material identifier, and miscellaneous information (e.g., flammable liquid, rare earths). The standard includes: (1) battery definitions citing SAE J1715/2 and other relevant SAE definitions; (2) identification codes for the battery chemistry and production referencing International Electrotechnical Commission (IEC) 62902, which identifies electrochemical storage technologies (batteries and others) according to their chemistry; and (3) recommendations for the physical placement of the identifier. The standard also includes examples of battery chemistry identification. This standard does not include specific information on the label design and label durability or other battery information (e.g., voltage, recycling instructions, safety information, handling, storage, or transportation).

6.2 Battery Council International Recommended Practices Battery Labeling Manual

BCI promotes the responsible manufacture, use, and recycling of batteries for energy storage applications. BCI's *Recommended Practices Battery Labeling Manual*, last revised in 2020, summarizes labeling requirements for lead-acid batteries from the United States, Canada, the EU, China, and Japan, as well as BCI-recommended (but not legally required) labeling practices that are based on industry standards.[25] The manual includes definitions of common label terms, a table of labeling requirements, explanations of typical battery labels (including sample

labels), and an appendix of reference materials. The labeling recommendations reflect major nationally and internationally adopted laws and standards governing health, safety, and the environment, as of January 2020.

In the manual, elements of label contents and design are displayed on sample labels, as shown in Figure 5 and Figure 6. The sample labels in the manual include descriptions and references to applicable U.S. or foreign laws and other applicable standards. Letters in the symbols are further explained in the manual.

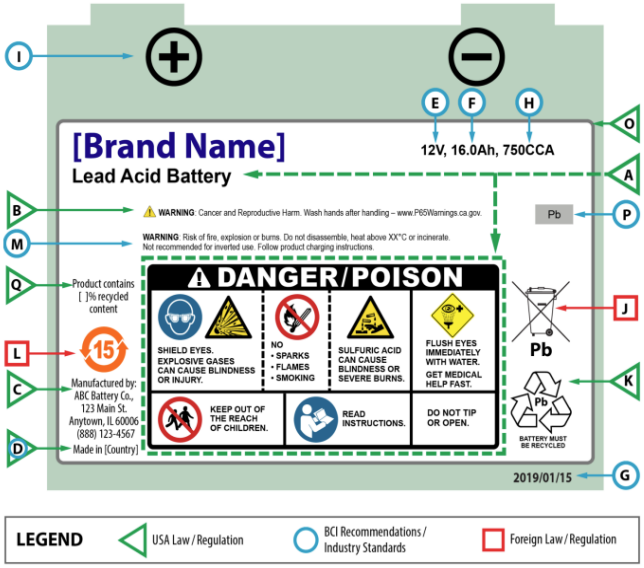

Figure 5: BCI recommended label for consumer starting, lighting, and ignition batteries. *Source: BCI, 2020.* [25]

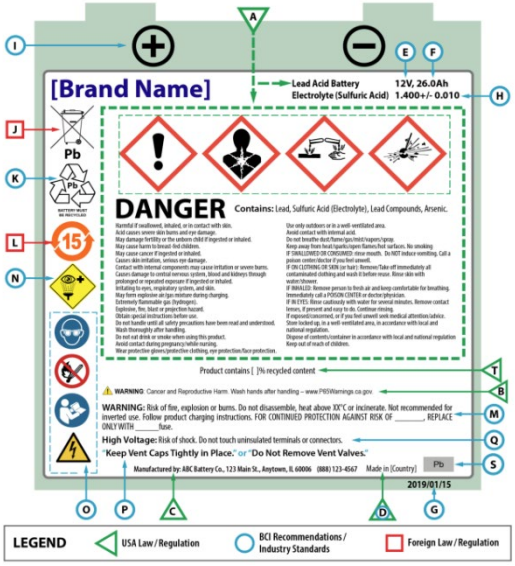

Figure 6: BCI recommended label for workplace, industrial, and non-consumer batteries. *Source: BCI, 2020.* [25]

6.3 National Salvage Vehicle Reporting Program

Established in 2008 at the request of the U.S. Department of Justice, the National Salvage Vehicle Reporting Program (NSVRP) is a nonprofit, dedicated to reducing auto theft and controlling criminal activities related to exporting stolen or fraudulently procured vehicles.[26] NSVRP oversees a battery registry focused on batteries that have been removed from EVs but may have enough life for a second use. NSVRP generates labels for EV batteries and provides them to facilities that have been certified by ARA as high-voltage vehicle recyclers. The labels have an embedded unique quick response (QR) code, which includes a coded battery registry URL and coded label ID. When a battery recycler scans a label, they are directed to the NSVRP portal for quick registration. NSVRP facilitates used battery purchases by providing second-life battery storage companies access to browse available batteries in the registry. These companies can then reach out directly to an automobile recycler to make a purchase.

6.4 Automotive Recyclers Association

ARA advances the automotive recycling industry and supports professional automotive recycling businesses by increasing awareness of the industry's role in environmental stewardship, promoting the value of recycled original equipment, and providing professional standards, education, and information on safety, best practices, and other topics.[24] ARA has developed several resources to keep auto recyclers safe, including an EV readiness checklist, a high-voltage vehicle checklist, and a high-voltage vehicle handling and dismantling protocol. In

addition to documents, ARA also developed two stickers to place on vehicles to improve worker safety during the dismantling and recycling processes, as shown in Figure 7 and Figure 8.[25]

Figure 7: ARA high-voltage "battery intact" sticker. *Source: ARA, 2020.*[28]

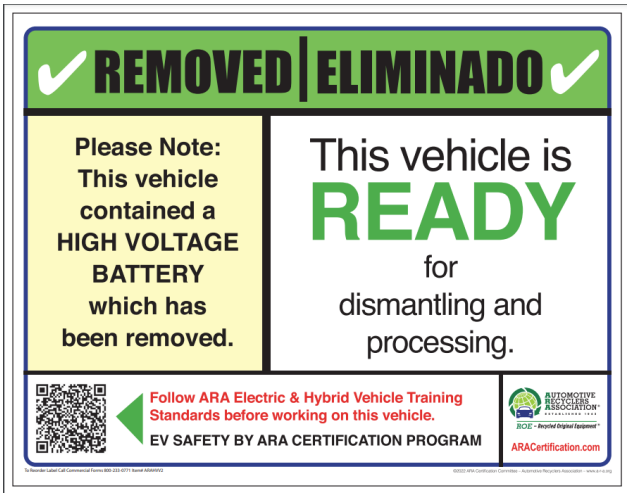

Figure 8: ARA high-voltage "battery removed" sticker. *Source: ARA, 2020.*[28]

7 Other Battery Safety and Labeling Standards

This section lists additional international standards relevant for both battery safety and labeling for EPA to consider when developing the labeling guidelines. The list is non-exhaustive but represents standards identified during research and through discussions with interested parties engaged with EPA's ongoing battery collection and labeling working sessions. Certain standards could be incorporated into labeling legislation or rulemakings—for example, Reese's Law prompted CPSC to adopt UL 4200A: Battery Testing and Labeling Services as a response to the law's rulemaking mandate for button cell and coin battery safety.[6,29] The list below demonstrates that batteries are subject to many standards and requirements, making labeling a challenge due to limited space and the various standards that may apply.

- The IEC is a nonprofit organization that develops and publishes international standards for all electrical, electronic, and related technologies.
    - IEC 62902: Secondary Cells and Batteries—Marking Symbols for Identification of Their Chemistry.
    - IEC 61429: Marking of Secondary Cells and Batteries with the International Recycling Symbol ISO 7000-1135.
    - IEC/ISO TR 24729: Information Technology—Radio Frequency Identification for Item Management—Implementation Guidelines, Part 2: Recycling and RFID Tags.
- The International Code Council's 2024 International Fire Code includes "regulations to safeguard life and property from fires and explosion hazards." The 2024 version includes tools to manage LIB collection, a section on the hazards of powered micromobility devices, a section on lithium-ion and lithium metal batteries, and guidance on battery markings for fire and explosion hazards.

- The American National Standards Institute (ANSI) is a nonprofit organization that coordinates U.S. voluntary standards, including testing and safety standards for various types of batteries. ANSI has published standards for safety alerts (not battery-specific), as well as general and safety standards for portable batteries.
    - ANSI Z535: Safety Alerting Standards.
    - ANSI C18.1 Part 1: American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—General and Specifications.
    - ANSI C18.1 Part 2: American National Standard for Portable Primary Cells and Batteries with Aqueous Electrolyte—Safety Standard.
    - ANSI C18.2 Part 1: American National Standard for Portable Rechargeable Cells and Batteries—General and Specifications.
    - ANSI C18.2 Part 2: American National Standard for Portable Rechargeable Cells and Batteries—Safety Standard.
    - ANSI C18.3 Part 1: American National Standard for Portable Lithium Primary Cells and Batteries—General and Specifications.
    - ANSI C18.3 Part 2: American National Standard for Portable Lithium Primary Cells and Batteries—Safety Standard.
    - ANSI C18.5M Part 1: Portable Lithium Rechargeable Cells and Batteries.
- UL Solutions offers globally recognized safety standards for batteries used for energy storage, EVs, and micromobility.[28]
    - UL 1642: Standard for Lithium Batteries.
    - UL 1974: Creating a Safe Second Life for Electric Vehicle Batteries.
    - UL 2054: Standard for Household and Commercial Batteries.
    - UL 2271: Standard for Batteries for Use in Light Electric Vehicle Applications.
    - UL 2272: Standard for Electrical Systems for Personal E-Mobility Devices.
    - UL 2849: Standard for Electrical Systems for E-Bikes.
    - UL 4200A: Battery Testing and Labeling Services for Reese's Law.
    - UL 60086-4: Standard for Safety for Primary Batteries—Part 4: Safety of Lithium Batteries.
    - UL 9540: Energy Storage System Requirements.
- The National Fire Protection Association (NFPA) is a nonprofit organization offering over 300 codes and standards, as well as professional training, education, and advocacy. Relevant NFPA safety standards apply primarily to large format stationary energy storage batteries. These standards help ensure the safety of those installing and working with the batteries. The standards do not specifically address labeling for recycling.
    - NFPA 855: Standard for the Installation of Stationary Energy Storage Systems.
    - NFPA 70: National Electrical Code.

8 Summary of Select Battery Labeling Requirements and Guidelines

Table 3 summarizes select existing battery labeling requirements and voluntary standards from the United States, the EU, BCI, and SAE International.

Table 3: Summary of Select Requirements and Voluntary Standards

	U.S. Battery Act of 1996[2]	EU Batteries Regulation[20]	BCI Battery Labeling Manual[25]	SAE J2936 and SAE J2984 (aligns with IEC 62902)[23,24]
Applicability	The Act applies to Ni-Cd and lead-acid batteries.	The 2023 Batteries Regulation updates the definitions of covered batteries to include the following categories: portable, industrial, automotive, EV, and light means of transport (LMT).	The recommended practices apply to SSLA batteries; starting, lighting, and ignition (SLI) lead-acid batteries; and their packaging.	SAE J2936 could apply to any device used for energy storage, including "cell, battery and pack level products used in mobility, stationary and secondary use applications."[23]
Chemical Symbol or Identification	The Act requires chemical identification of regulated Ni-Cd or lead (Pb) batteries.	All batteries must include general information on their category, chemistry, and whether they are rechargeable. All batteries containing more than 0.002% Cd or 0.004% Pb must be marked with the chemical symbol for the metal concerned.	The manual recommends compliance with the U.S. Battery Act of 1996 requirement to include a Ni-Cd or Pb label. The manual recommends having a chemical symbol on the battery label.	Color coding: • Ni-Cd: Yellow green • Nickel–metal hydride: Orange • Lithium-ion: Cobalt blue • Pb: Silver • Nickel-zinc: Green
Placement and Legibility of Statements	Label must be on each individual battery or battery-containing product, in addition to the product packaging unless the label on the battery or battery-containing product is visible through the packaging.	A QR code must be in high contrast to the background color and large enough to be easily readable by a common QR code reader.	Required label elements should be "clear and conspicuous, separated from other text and graphics, and not placed on the bottom of the product."	Information must be displayed on the largest panel or side of the product. The label copy should be clean and free of any dirt or excess print. It should have a lower gloss reflection to ensure readability. The label should be on a background of sharp contrasting color to ensure it stands out to the user. The label should be durable and remain intact for the entire life of the product.
Recycling Symbol or Label	The chasing arrows symbol (or a comparable recycling symbol) is required for all regulated batteries. Label for Ni-Cd batteries: "nickel-cadmium" or "Ni-Cd," with the	Batteries must display the crossed-out wheeled bin (see Figure 4), which is the EU symbol for separate collection.[31]	The manual recommends compliance with the U.S. Battery Act of 1996 and EU requirements.	Batteries should display the chasing arrows symbol.

	U.S. Battery Act of 1996[2]	EU Batteries Regulation[20]	BCI Battery Labeling Manual[25]	SAE J2936 and SAE J2984 (aligns with IEC 62902)[23,24]
	phrase “Battery must be recycled or disposed of properly.” Label for rechargeable consumer products containing nonremovable Ni-Cd batteries: “Contains nickel-cadmium battery. Battery must be recycled or disposed of properly.” Label for regulated lead-acid batteries: “Pb” or the words “lead,” “return,” and “recycle.” Label for rechargeable consumer products containing nonremovable regulated lead-acid batteries: “Contains sealed lead battery. Battery must be recycled.” Labels must be in all capital letters.			

9 Key Findings

This review of U.S. and international battery labeling requirements and voluntary standards focuses on three of the key information needs identified by EPA for the development of voluntary battery labeling guidelines: EOL management information, battery specifications (including chemistry), and safety information. At present, a single comprehensive standard requiring battery producers and manufacturers to label batteries and battery-containing products for improved collection and safe recycling does not exist. Box 1 summarizes key findings from the review of existing labeling requirements and voluntary standards that will help EPA focus on the types of information needed to achieve the purpose of the voluntary battery labeling guidelines and align them with existing requirements and standards.

Box 1: Key Findings from EPA's Review of Existing Labeling Requirements and Voluntary Guidelines

EOL management information labels are a work in progress, and there is limited evidence of their impact on recycling.

- Existing labeling requirements in the United States, the EU, and Japan include messaging and/or symbols indicating that batteries and battery-containing products should be recycled, but battery labels do not provide clear instructions for users to determine where or how batteries should be collected.
- New labeling requirements that aim to improve information on EOL management have been adopted in the EU, Washington State, and California in recent years, but not all are fully in effect as of November 2024. As such, governing bodies cannot evaluate the efficacy of these new labeling requirements in improving recycling.
- Recycling symbols vary by region. The EU uses a crossed-out wheeled bin, whereas standards and regulations in the United States and other regions reference the Mobius loop (i.e., chasing arrows symbol).

Battery chemistry identification and rated capacity can help aid safe recycling, but these label elements are not internationally standardized.

- SAE International provides a recommended chemistry identifier with anode and cathode information for LIBs.
- Standardized color coding by chemistry is referenced in some regulatory requirements and voluntary standards but is not widely adopted.
- Labeling guidelines for chemistry should be adaptable to new battery chemistries and new sorting technologies.

Safety labeling or markings included in existing safety standards could be incorporated into law.

- Standards organizations have developed several safety standards applicable to specific battery formats, including standards for safe use, storage, repair, reuse, and recycling. These safety standards could be incorporated into federal or state law by reference.
- For small format consumer electric and portable batteries, U.S. federal law requires safety information on the battery packaging to reduce the risk of ingestion (Reese's Law). Washington and California state laws will require labeling to ensure proper EOL management; these labeling requirements are under development as of January 2025.
- For micromobility or mid-format batteries, safety standards aim to tackle emerging safety issues and reduce fire risks. For example, New York State incorporated safety standards into new laws on e-mobility. Washington State will require labeling for EOL management; these labeling requirements are under development as of January 2025.

Box 1: Key Findings from EPA's Review of Existing Labeling Requirements and Voluntary Guidelines

- For large format vehicle batteries, motive equipment batteries, and stationary storage batteries, voluntary standards and example labels aim to improve safety for recyclers and for reuse.

Existing industry guidelines can serve as a model for labeling recommendations and content considerations.

- International standards organizations compile requirements and recommendations for label components—including content, design, placement, and durability—which can be used as a model for EPA's voluntary labeling guidelines.

10 Next Steps

Moving forward, EPA will continue engaging with parties across the battery life cycle to develop the voluntary battery labeling guidelines as required by the BIL. Specifically, in 2025, EPA will host working sessions on mid-format and large format batteries in partnership with other federal agencies, battery manufacturers, retailers, industry leaders, and state, local, and Tribal governments. The goal of these sessions is to build on feedback received on effective label content and design considerations from the small format battery engagement sessions. EPA will assess this feedback to inform the development and implementation of the guidelines. The guidelines will focus on standardizing necessary information for different audiences to identify batteries and battery-containing products and increase proper EOL management.

To bolster adoption of the voluntary battery labeling guidelines and increase their effectiveness, EPA will conduct additional research on consumer education and messaging based on feedback gathered from working session participants. EPA will develop and test messaging to ensure that the labeling guidelines resonate and meet the needs of priority audiences, including municipalities, consumers, and recyclers. Additionally, EPA will create a collection best practices toolkit to accompany the voluntary guidelines, which will help to improve EOL battery management by increasing access to collection sites. EPA will also, in coordination with DOE, develop a battery EPR framework that addresses battery recycling goals, cost structures for mandatory recycling, reporting requirements, product design, collection models, and transportation of collected materials.

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Appendix: Relevant Legislation

The following sections include excerpts from relevant state, federal, and international legislation that state requirements for battery labels.

Relevant Text from the Mercury-Containing and Rechargeable Battery Management Act (1996)

SEC. 102. PURPOSE.

The purpose of this title is to facilitate the efficient recycling or proper disposal of used nickel-cadmium rechargeable batteries, used small sealed lead-acid rechargeable batteries, other regulated batteries, and such rechargeable batteries in used consumer products, by—

(1) providing for uniform labeling requirements and streamlined regulatory requirements for regulated battery collection programs; and

(2) encouraging voluntary industry programs by eliminating barriers to funding the collection and recycling or proper disposal of used rechargeable batteries.

SEC. 103. RECHARGEABLE CONSUMER PRODUCTS AND LABELING.

b) LABELING.—Each regulated battery or rechargeable

consumer product without an easily removable battery manufactured on or after the date that is 1 year after the date of enactment of this Act, whether produced domestically or imported shall bear the following labels:

(1) 3 chasing arrows or a comparable recycling symbol.

(2)(A) On each regulated battery which is a nickel-cadmium battery, the chemical name or the abbreviation "Ni-Cd" and the phrase "BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY."

(B) On each regulated battery which is a lead-acid battery, "Pb" or the words "LEAD," "RETURN," and "RECYCLE" and if the regulated battery is sealed, the phrase "BATTERY MUST BE RECYCLED."

(3) On each rechargeable consumer product containing a regulated battery that is not easily removable, the phrase "CONTAINS NICKEL-CADMIUM BATTERY. BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY." Or "CONTAINS SEALED LEAD BATTERY. BATTERY MUST BE RECYCLED," as applicable.

(4) On the packaging of each rechargeable consumer product, and the packaging of each regulated battery sold separately from such a product, unless the required label is clearly visible through the packaging, the phrase "CONTAINS NICKEL-CADMIUM BATTERY. BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY." or "CONTAINS SEALED LEAD BATTERY. BATTERY MUST BE RECYCLED," as applicable

Relevant Text from California AB-2440 Responsible Battery Recycling Act (2022)

Article 3. Stewardship Plans for Covered Batteries

42422.1. A stewardship plan for covered batteries shall include all of the following:

(p) Developing strategies in coordination with other program operators to develop and implement proper labeling of covered batteries to ensure proper collection and recycling, by identifying the chemistry of the covered battery and including an indication that the covered battery should not be disposed of as household waste

42424.1. A program operator shall annually submit to the department, in the form and manner, and by the date, determined by the department, an annual report, which the department shall make publicly available that includes all of the following information for the preceding calendar year:

(l) (1) A report on coordination activities with other program operators, including covered battery collection and recycling programs and electronic waste recyclers, with regard to the proper management or recycling of collected covered batteries, for purposes of providing the efficient delivery of services and avoiding unnecessary duplication of effort and expense.

(2) A description of efforts undertaken by a program operator to implement the required labeling of covered batteries pursuant to Section 42422.1.

Relevant Text from California SB-1215 Electronic Waste Recycling Act (2003)

42466.1.(a) On and after January 1, 2026, a person shall not sell or offer for sale in this state a new or refurbished covered electronic device, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, unless the item is labeled with the name of the manufacturer or the manufacturer's brand label so that it is readily visible.

(b) A new or refurbished covered electronic device, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, battery-embedded product shall either be labeled with information identifying the chemistry of the battery contained within the covered electronic devices sold by the manufacturer or include that information on the manufacturer's internet website.

42467. On or before July 1, 2027, and at least once annually thereafter, each manufacturer of a covered electronic device, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, sold in this state shall do both of the following:

(1) Submit to CalRecycle a report that includes all of the following information:

(A) An estimate of the number of covered electronic devices, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, sold by the manufacturer in the state during the previous year.

(B) The chemistry of the battery contained within the covered electronic devices, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, sold by the manufacturer.

(C) A baseline or set of baselines that show the total estimated amount of recycled materials contained in covered electronic devices, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, sold by the manufacturer in that year and the increase in the use of those recycled materials from the previous year.

(D) A list of those retailers, including, but not limited to, internet and catalog retailers, to which the manufacturer provided a notice in the prior 12 months pursuant to Section 42466.2.

(2) Make information available to consumers that describes where and how to return, recycle, and dispose of the covered electronic device, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463, and opportunities and locations for the collection or return of the device, through the use of a toll-free telephone number, internet website, information labeled on the device, information included in the packaging, or information accompanying the sale of the covered electronic device, as defined in subparagraph (B) of paragraph (1) of subdivision (g) of Section 42463.

Relevant Text from Washington State SB-5144—Providing for Responsible Environmental Management of Batteries (2023)

Marking requirements for batteries.

(1) Beginning January 1, 2028, a producer or retailer may only sell, distribute, or offer for sale in or into Washington a large format battery, covered battery, or battery-containing product that contains a battery that is designed or intended to be easily removable from the product, if the battery is:

(a) Marked with an identification of the producer of the battery, unless the battery is less than one-half inch in diameter or does not contain a surface whose length exceeds one-half inch; and

(b) Beginning January 1, 2030, marked with proper labeling to ensure proper collection and recycling, by identifying the chemistry of the battery and including an indication that the battery should not be disposed of as household waste.

(2) A producer shall certify to its customers, or to the retailer if the retailer is not the customer, that the requirements of this section have been met, as provided in RCW 70A.555.030.

(3) The department may amend, by rule, the requirements of subsection (1) of this section to maintain consistency with the labeling requirements or voluntary standards for batteries established in federal law.

[2023 c 434 § 14.]

Relevant Text from European Union (EU) Batteries Regulation (2023)*(44) Batteries should be labelled in order to provide end-users with transparent, reliable and clear information about batteries and waste batteries. That information would enable end-users to make informed decisions when buying and discarding batteries and waste operators to appropriately treat waste batteries.*

Batteries should be labelled with all the necessary information concerning their main characteristics, including their capacity and the amount of certain hazardous substances present. To ensure the availability of information over time, that information should also be made available by means of QR codes which are printed or engraved on batteries or are affixed to the packaging and to the documents accompanying the battery and should respect the guidelines of ISO/IEC Standard 18004:2015. The QR code should give access to a battery's product passport. Labels and QR codes should be accessible to persons with disabilities, in accordance with Directive (EU) 2019/882 of the European Parliament and of the Council (17).

CHAPTER III

Labelling, marking and information requirements

Article 13

1. *From 18 August 2026 or 18 months after the date of entry into force of the implementing act referred to in paragraph 10, whichever is the latest, batteries shall bear a label containing the general information on batteries set out in Part A of Annex VI.*
2. *From 18 August 2026 or 18 months after the date of entry into force of the implementing act referred to in paragraph 10, whichever is the latest, rechargeable portable batteries, LMT batteries and SLI batteries shall bear a label containing information on their capacity.*
3. *From 18 August 2026 or 18 months after the date of entry into force of the implementing act referred to in paragraph 10, whichever is the latest, non-rechargeable portable batteries shall bear a label containing information on their minimum average duration when used in specific applications and a label indicating 'non-rechargeable'.*
4. *From 18 August 2025, all batteries shall be marked with the symbol for separate collection of batteries ('separate collection symbol') as shown in Part B of Annex VI.*
    a. *The separate collection symbol shall cover at least 3 % of the area of the largest side of the battery up to a maximum size of 5 × 5 cm.*
    b. *In the case of cylindrical battery cells, the separate collection symbol shall cover at least 1,5 % of the surface area of the battery and shall have a maximum size of 5 × 5 cm.*
    c. *Where the size of the battery is such that the separate collection symbol would be smaller than 0,47 × 0,47 cm, the battery does not need to be marked with that symbol. Instead, a separate collection symbol measuring at least 1 × 1 cm shall be printed on the packaging.*
5. *All batteries containing more than 0,002 % cadmium or more than 0,004 % lead, shall be marked with the chemical symbol for the metal concerned: Cd or Pb.*
    a. *The relevant chemical symbol indicating the heavy metal content shall be printed beneath the separate collection symbol and shall cover an area of at least one-quarter the size of that symbol.*
6. *From 18 February 2027, all batteries shall be marked with a QR code as described in Part C of Annex VI. The QR code shall provide access to the following:*
    a. *(a) for LMT batteries, industrial batteries with a capacity greater than 2kWh and electric vehicles batteries, the battery passport in accordance with Article 77;*
    b. *(b) for other batteries, the applicable information referred to in paragraphs 1 to 5 of this Article, the declaration of conformity referred to in Article 18, the report referred to in Article 52(3) and*

the information regarding the prevention and management of waste batteries laid down in Article 74(1), points (a) to (f);

c. *(c) for SLI batteries, the amount of cobalt, lead, lithium or nickel recovered from waste and present in active materials in the battery, calculated in accordance with Article 8.*

This information shall be complete, up-to-date and accurate.

7. *The labels and the QR code referred to in paragraphs 1 to 6 shall be printed or engraved visibly, legibly and indelibly on the battery. Where this is not possible or not warranted on account of the nature and size of the battery, the labels and the QR code shall be affixed to the packaging and to the documents accompanying the battery.*
8. *The Commission is empowered to adopt delegated acts in accordance with Article 89 to amend this Regulation to provide for alternative types of smart labels for use instead of or in addition to the QR code, in view of technical and scientific progress.*
9. *Batteries that have been subject to preparation for re-use, preparation for repurposing, repurposing or remanufacturing shall bear new labels or shall be marked with markings in accordance with this Article and containing information on their change of status in accordance with point 4 of Annex XIII, which shall be accessible through the QR code.*
10. *The Commission shall, by 18 August 2025, adopt implementing acts to establish harmonised specifications for the labelling requirements referred to in paragraphs 1, 2 and 3 of this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 90(3).*

Labelling and marking of batteries ANNEX VI LABELLING, MARKING AND INFORMATION REQUIREMENTS

Part A: General information on batteries

Information on the label of a battery shall comprise the following information regarding the battery:

1. *information identifying the manufacturer in accordance with Article 38(7);*
2. *the battery category and information identifying the battery in accordance with Article 38(6);*
3. *the place of manufacture (geographical location of a battery manufacturing plant);*
4. *the date of manufacture (month and year);*
5. *the weight;*
6. *the capacity;*
7. *the chemistry;*
8. *the hazardous substances present in the battery, other than mercury, cadmium or lead;*
9. *usable extinguishing agent;*
10. *critical raw materials present in the battery in a concentration of more than 0,1 % weight by weight.*

Part B: Symbol for separate collection of batteries

Part C: QR code

The QR code shall be in high contrast to the background colour and of a size that is easily readable by a commonly available QR reader, such as those integrated in hand-held communication devices.

Attachment B

TITLE 35: ENVIRONMENTAL PROTECTION
SUBTITLE K: RECYCLABLE, RECLAIMABLE, OR REUSABLE WASTES
CHAPTER I: POLLUTION CONTROL BOARD

PART 1220
MANAGEMENT OF USED Electric Vehicle (EV) BATTERIES

SUBPART A: GENERAL

Section

SUBPART B: MANAGEMENT STANDARDS FOR STORAGE

Section

SUBPART C: RESERVED FOR AMENDMENTS

SUBPART D: RESERVED FOR AMENDMENTS

SUBPART E: RECORDKEEPING AND REPORTING

Section

SUBPART F: FINANCIAL ASSURANCE

Section

AUTHORITY: Implementing Section 22.23f and authorized by Section 27 of the Environmental Protection Act [415 ILCS 5/22.23f and 27].

SOURCE: Adopted in R26-17 at 50 Ill. Reg. _____, effective _____.

SUBPART A: GENERAL

Section 1220.100 Applicability

This Part applies to used EV battery storage sites regulated under Section 22.23f of the Environmental Protection Act [415 ILCS 5/22.23f]. Section 22.23f specifies prohibitions relative to the receipt, handling, storage, and transfer of used electric vehicle ("EV") batteries. This Part establishes further requirements relative to the receipt, handling, storage, and transfer of used EV batteries at used EV battery storage sites. Despite any other provision of this Part, this Part does not apply to:

a) New EV batteries being stored prior to installation in an EV;

b) Batteries installed in an EV that have not yet been removed;

c) Used EV batteries that have been returned to reuse or returned to the economic mainstream in the form of raw materials or products; and

d) Any local fire department or other emergency response entity responding to a used EV battery fire.

Section 1220.105 Severability

If any section, subsection, sentence or clause of this Part is adjudged unconstitutional, invalid or otherwise not effective for any reason, such adjudication will not affect the validity of this Part as a whole or of any section, subsection, sentence or clause thereof not adjudged unconstitutional, invalid or otherwise not effective for any reason.

Section 1220.110 Other Regulations

a) The requirements of this Part are in addition to other requirements in the Act or Board regulations. In case of conflict, applicability will be determined on the basis of considerations like the degree to which the statutory language in the Act or Board regulation is expressly stated or necessarily implied. United

States Environmental Protection Agency program authorization requirements, and the comparative stringency of the regulations.

b) The following are examples of other regulations which may be applicable to facilities subject to this Part: 35 Ill. Adm. Code: Subtitle B: Air Pollution; 35 Ill. Adm. Code: Subtitle C: Water Pollution; 35 Ill. Adm. Code: Subtitle H: Noise Pollution; and 35 Ill. Adm. Code: Subtitle G: Waste Disposal.

~~b)~~c) The requirements of this Part do not supersede or otherwise override any requirements under the Emergency Planning and Community Right-to-Know Act ("EPCRA"), 42 U.S.C. §§ 11001-11050, and the Illinois Emergency Planning and Community Right-to-Know Act ("IEPCRA"), 430 ILCS 100.

Section 1220.115 Definitions

For the purposes of this Part, except as the context otherwise clearly requires, the words and terms defined in this Section have the meanings given in this Section. Words and terms not defined in this Section have the meanings otherwise ~~set forth~~specified in the Act and 35 Ill. Adm. Code 101.

"Act" means the Environmental Protection Act. [415 ILCS 5].

"Agency" is the [Illinois] *Environmental Protection Agency established by* the *Act.* [415 ILCS 5/3.105]

"Battery storage site" means a site where used EV batteries are stored. [415 ILCS 5/22.23f(a)]

"Electric vehicle" or "EV" has the same meaning as defined in Section 11-1308 of the Illinois Vehicle Code. [415 ILCS 5/22.23f(a)]

"Electric vehicle battery" or "EV battery" means a rechargeable battery that is used to power the electric motors that propel an electric vehicle. "Electric vehicle battery" includes, but is not limited to, lithium-ion batteries and nickel-metal hydride batteries. "~~Electric vehicle~~EV battery" encompasses the entire battery pack of an ~~electric vehicle~~EV, but does not include the individual cells of an ~~electric vehicle~~EV battery.
[415 ILCS 5/22.23f(a)]

"Fully enclosed container" means a portable, hard-walled, lockable receptacle that is impervious to precipitation and surface runoff. "Fully enclosed container" does not include any container that is overfilled or otherwise cannot be closed completely or is otherwise damaged and, as a result, is not impervious to precipitation or surface runoff.

"Operator" means the person responsible for the operation and maintenance of a used EV battery storage site.

"Owner" means a person who has an interest, directly or indirectly, in land, including a leasehold interest, on which a person operates and maintains a used EV battery storage site. The "owner" is the "operator" if there is no other person

who is operating and maintaining a used EV battery storage site.

"Storage" means any accumulation of used EV batteries that does not constitute disposal. [415 ILCS 5/22.23f(a)]

"Used [EV] *battery" means an EV battery that is sold, given, or otherwise conveyed to a battery storage site.* [415 ILCS 5/22.23f(a)]. This term includes, ~~but is not limited to,~~ uninstalled EV batteries that are sent by the manufacturer or another person for recycling ~~rather than installed in an electric vehicle~~ and EV batteries removed from an ~~electric vehicle~~EV at the battery storage site.

Section 1220.120 Incorporation by Reference

a) The Board incorporates the following documents by reference:

NFPA 51B, "Standard for Fire Prevention During Welding, Cutting, and Other Hot Work", 2014 Edition, National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02169-7471.

b) This Section incorporates no later amendments or editions.

Section 1220.125 Estimating the Weight of Used EV Battery Accumulations

a) If the weight of an accumulation of used EV batteries is unknown, its weight ~~may~~must, for ~~the purposes of~~ this Part, be calculated by multiplying the volume of the accumulation, measured in cubic feet, by the following density factor ~~for the type of used EV battery~~:

1) ~~For passenger cars (i.e. sedans, hatchbacks, SUVs),~~ 17 kilograms (38 pounds) per cubic foot.~~;~~

~~For light duty trucks, [new density factor needed]; and~~

~~1) For semi-trucks or other heavy duty EVs, [new density factor needed].~~

~~a)~~b) A used EV battery storage pile may be divided into more than one accumulation of used EV batteries for ~~the purposes of~~ making the calculation described in subsection (a).

SUBPART B: MANAGEMENT STANDARDS

Section 1220.200 Applicability

Owners and operators of any battery storage site that contains one or more used EV batteries are subject to this Subpart.

Section 1220.205 General Requirements

~~a)~~ Owners and operators of any battery storage site who store used EV batteries must comply with the following requirements:

~~1~~a) Used EV batteries must not be placed or accumulated outside of a building, except as provided in Section 1220.215.

~~2~~b) Used EV batteries must not be placed or accumulated inside a building, except as provided in Section 1220.210:

~~3~~c) Used EV batteries must not be placed or accumulated in any area where the grade of the ground surface exceeds two percent slope.

~~-~~d) Used EV ~~B~~battery terminals must be protected either through battery design methods or a protective packaging method to prevent short-circuit of each used EV battery.

~~5~~e) All activities at the used EV battery storage site that present a risk of fire must be conducted in ~~accordance~~ compliance with the NFPA 51B standard for fire prevention, including ~~but not limited to~~ welding, cutting, and other hot work, and either:

~~A~~1) Outside of any room where used EV batteries are placed or accumulated; or

~~B~~2) If outdoors, separated by at least 250 feet from all containers where used EV batteries are placed or accumulated.

~~6~~f) Any runoff due to a used EV battery fire, explosion, or other damage to stored used EV batteries must be disposed of in compliance with all applicable Illinois ~~administrative rules~~administrative rules.

g) For any used EV battery storage site at which more than 5,000 kilograms (11,023 pounds) of used EV batteries are located at any one time, the owner or operator must:

~~A~~1) Register the site with the Agency by February 1st of each calendar year on forms and in a format prescribed by the Agency. For this Part:

A) A used EV battery storage site that stores 5,000 kilograms or more of used EV batteries at any time in the year must register within 10 days of storing 5,000 kilograms or more of used EV batteries; and

~~A)~~B) Any used EV battery storage site that at any point stores 5,000 kilograms or more of used EV batteries is deemed as having 5,000 kilograms or more of used EV batteries until the following February 1st.

~~B~~2) Comply with the contingency planning and emergency response requirements of Section 1220.220.

~~C~~3) Comply with the recordkeeping and reporting requirements of Subpart E.

~~7~~9g) Used EV battery storage sites must have one or more stabilized roadways to provide firefighting personnel and equipment access to all portions of the battery storage area.

~~8~~h) Combustible materials in used EV battery storage sites must comply with all of the following:

~~A~~1) Combustible materials other than used EV batteries must not be stored in rooms, containers, cabinets, or enclosures containing used EV batteries, including ~~but not limited to~~ batteries other than used EV batteries.

~~B~~2) Combustible materials must not be stored within 3 feet from the exterior of rooms, containers, cabinets, or enclosures containing used EV batteries.

~~9~~i) Explosion Protection. The potential for a deflagration involving the off-gassing of flammable gases during a thermal runaway must be analyzed and explosion protection and gas ventilation to prevent the build up of dangerous gasses ~~meeting industry standards~~ must be installed to meet industry standards if the potential for a deflagration exists. If any explosion protection or gas ventilation is installed, the used EV battery storage site must maintain records on-site of the analysis of deflagration and make the records available for inspection and photocopying by the Agency during normal business hours.

~~1)~~ Any deflagration analysis must be completed by a Fire Protection Engineer or registered design professional with expertise in fire protection engineering, or a similarly qualified individual.

j) Used EV battery storage sites must make the used EV battery storage site available for inspection by the Agency or local fire departments, either upon the request of the facility or by request of the Agency or local fire department.

1) Upon inspection by a local fire department, it may determine if a facility is storing used EV batteries in a manner that allows emergency responders to safely respond to a fire or explosion incident. If a local fire department determines that the used EV battery storage site's storage methods would not allow the local fire department to address a fire or explosion, the used EV battery storage site shall modify its storage method's to comply with the local fire departments needs for fire or explosion response.

2) If the Agency determines that a used EV battery storage site contains 5,000 kilograms or more of used EV batteries, the used EV battery storage site may be appealed to the Board as an Agency Final Decision under 35 Ill. Adm. Code 105.

Section 1220.210 Storage of Used EV Batteries Within Buildings

a) Owners and operators of any battery storage site who store used EV batteries within buildings must meet the requirements of this Section.

b) ~~Used EV batteries must not be stored within a building unless~~Any building used for the storage of used EV batteries must:

1) Maintain a~~A~~ll of the building's windows and doors ~~are~~ in working order and ~~are~~ be secured to prevent unauthorized access;

2) ~~The building~~ Be ~~is~~ fully enclosed and ha~~s~~ves a roof and sides that are impermeable to precipitation; and

3) ~~The building is~~ N~~n~~ot be a single-family home or other residential building.

c) All used EV batteries stored within a building must comply with the following:

1) Used EV batteries stored indoors must be stored in piles ~~of~~ within a room no greater than 900 square feet in area. Each pile must be separated from other piles and from the remainder of the building areas by walls as described in subsection (c)(2) and by a ceiling with a 2-hour fire resistance rating constructed in ~~accordance~~ compliance with the local building code.

2) Each used EV battery pile must be contained in a room either:

A) Enclosed by 2-hour fire resistance rated walls constructed according to the local building code and with a minimum of 10 feet of separation from all other rooms containing used EV battery pile; or

B) Enclosed by 3-hour fire resistance rated wall constructed according to the local building code and with a minimum of 3 feet of separation from all other rooms containing used EV battery piles.

3) Each used EV battery pile must be separated from all exits from the room or building by at least 5 feet.

4) Rooms where used EV batteries are stored must contain a fire alarm system activated by an air-aspirating smoke detector system or a radiant-energy detection system with occupant notification.

5) Rooms where used EV batteries are stored must contain an automatic sprinkler system and ventilation system to prevent the dangerous buildup of gasses.

6) All rooms where used EV batteries are stored must ~~not~~ have ~~fewer than~~at least 2 points of access that are sufficiently separated from one another to provide 2 independent means of ingress and egress during a fire event.

7) Used EV batter~~y~~ies must ~~not be placed or accumulated within 2 feet of the room ceiling.~~be stored according to one of the following height requirements:

A) For used EV batteries stored with a whole room sprinkler system:

(i) Used EV batteries may be stored up to ~~[foot height requirement)~~ 5 feet high including the height of a pallet.

B) For used EV batteries stored on racks with a per rack fire suppression system:

(i) Used EV batteries may be stored up to ~~[foot height requirement]~~ ~~high~~8 feet below the ceiling;~~.~~ and

~~(i)~~(ii) Rack storage may not exceed 35 feet in height.

d) In addition to ~~the requirements in~~ subsections (b) and (c), if more than 5,000 kilograms (11,023 pounds) of used EV batteries are ~~located~~ stored at any one time at the battery storage site, the owners and operators of the site must:

1) Develop, in consultation with the local fire department, a battery storage plan for all used EV batteries that are stored within any building. The battery storage plan must:

A) Take into consideration the type of building(s) used for battery storage (e.g., warehouse) and the type of used EV batteries being stored (e.g.~~, whole or shredded,~~ battery chemistry types);

B) Identify, ~~at a minimum,~~ the battery storage arrangement; aisle spacing; clearance distances between storage piles and room walls, room ceilings, unit heaters, furnaces, ducts, and sprinkler deflectors; and points of access for firefighting personnel and equipment;

C) Be maintained on site, adhered to at all times, made available for inspection and photocopying by the Agency during normal business hours, and a copy filed with the local fire department; and

D) Include the following certification signed by the owner or operator: "I certify that this battery storage plan has been developed in consultation with the local fire department and that a copy of this battery storage plan has been filed with the local fire department."

2) Meet the contingency planning and emergency response requirements of Section 1220.220; and

3) Meet the recordkeeping and reporting requirements of Subpart E.

Section 1220.215 Storage of Used EV Batteries Outdoors

a) Owners and operators of any battery storage site who store used EV batteries outdoors must meet the requirements of this Section.

b) Used EV batteries must not be placed or accumulated outside of a building unless

the following requirements are met:

1) All used EV batteries are placed or accumulated in fully enclosed containers that are non-combustible and allow for the venting to prevent the buildup of dangerous gasses or designed for used EV battery collection use.

2) Containers must be stored on a concrete or asphalt pad, and must be kept closed except while batteries are being placed in or removed from the container.

3) Individual containers must be separated from all other containers by ~~a minimum of~~at least 10 feet.

4) Individual containers must be separated by ~~a minimum of~~at least 20 feet from the following:

   A) Lot property lines;

   B) Public ways;

   C) Buildings and other structures;

   D) Other storage containers used for any materials that are not used EV batteries;

   E) Hazardous materials;

   F) Vegetation; and

   G) Other exposure hazards that pose a risk of damaging or igniting used EV batteries.

5) Any area where containers holding used EV batteries are placed must be:

   A) Capable of containing all battery fire runoff; and

   B) Crossed by a stabilized roadway at not fewer than 2 points of access that are sufficiently separated from one another to provide 2 independent means of ingress and egress during a fire event.

6) Containers must not be placed or accumulated within 250 feet horizontally of the ground surface from any point directly beneath any electrical power line that (i) has a voltage in excess of 750 volts or (ii) that supplies power to a fire emergency system.

c) In addition to ~~the requirements in~~ subsection (b), if more than 5,000 kilograms (11,023 pounds) of used EV batteries are located at any one time at the battery storage site, the owners and operators of the site must:

1) Develop, in consultation with the local fire department, a battery storage plan for all used EV batteries that are stored outdoors that:

A) Takes into consideration the area where the batteries are stored (e.g., natural and artificial risks for fire spread) and the type of used EV batteries being stored (e.g., ~~whole or shredded,~~ battery chemistry types);

B) Identifies~~, at a minimum,~~ the battery storage arrangement; container spacing; clearance distances between containers and any building walls, lot-property lines, public ways, buildings and other structures, other storage not containing used EV batteries, hazardous materials, vegetation, other exposure hazards, and points of access for firefighting personnel and equipment; and

C) Is maintained on site, adhered to at all times, made available for inspection and photocopying by the Agency during normal business hours. The plan must include the following certification signed by the owner or operator: "I certify that this battery storage plan has been developed in consultation with the local fire department and that a copy of this battery storage plan has been filed with the local fire department."

2) Meet the contingency planning and emergency response requirements of Section 1220.220; and

3) Meet the recordkeeping and reporting requirements of Subpart E.

Section 1220.220 Contingency Planning and Emergency Response

Owners and operators of any used EV battery storage site where more than 5,000 kilograms (11,023 pounds) of used EV batteries are located at any one time must:

a) Develop, in consultation with the local fire department, and if subject to EPCRA, a local emergency planning committee, a contingency plan that:

1) Minimizes the hazards to human health and the environment from used EV battery fires and run-off of contaminants from used EV battery fires;

2) Is carried out immediately whenever there is a used EV battery fire or evidence of run-off from a used EV battery fire;

3) Describes the actions battery storage site personnel must take in response to used EV battery fires and run-off from used EV battery fires;

4) Describes evacuation procedures, including, evacuation signals, primary evacuation routes, and alternate evacuation routes to be used when the primary routes could be blocked;

5) Contains an up-to-date emergency equipment list that not only identifies all emergency equipment at the used EV battery storage site, such as fire-extinguishing systems, fire-suppression material, spill-control equipment, decontamination equipment, and communication and alarm systems (internal and external), but also describes the physical location and capabilities of each listed item;

6) Provides the name, address, and telephone number of an employee designated as the primary emergency coordinator responsible for coordinating emergency response measures at the used EV battery storage site, as well as an up-to-date list of all alternate emergency coordinators, listed in the order in which they will assume responsibility for coordinating emergency response measures at the used EV battery storage site in the event that the primary emergency coordinator or another alternate emergency coordinator is unavailable; and

7) Is maintained on site, adhered to at all times, made available for inspection and photocopying by the Agency during normal business hours. The plan must include the following certification signed by the owner or operator:

> I certify that this contingency plan has been developed in consultation with the local fire department and that a copy of this contingency plan has been filed with the local fire department.

b) Ensure that all emergency equipment at the used EV battery storage site is at all times clean and fit for its intended purpose;

c) Review and amend the contingency plan within 30 days after:

1) Any fire or explosion occurs at the used EV battery storage site;

2) The used EV battery storage site changes in its design, construction, operation, maintenance, or other characteristics in a way that increases the potential for a fire at the site or the release of run-off from a fire at the site;

3) The list of emergency coordinators for the used EV battery storage site changes; or

4) The list of emergency equipment at the used EV battery storage site changes;

d) Ensure that, at all times, the primary emergency coordinator or an alternate emergency coordinator is either on site or on call; that the primary emergency coordinator and alternate emergency coordinators are familiar with, and have immediate access to, all aspects of the contingency plan, all operations and activities at the used EV battery storage site, the location of all records within the site and the site layout; and that the primary emergency coordinator and all

alternate emergency coordinators have the authority to commit the resources needed to carry out the contingency plan;

e) Notify the Agency immediately if a used EV battery fire or explosion occurs at the used EV battery storage site and immediately begin managing, in ~~accordance~~ compliance with all applicable federal and State laws and regulations, all contaminated soils, contaminated waters, and other wastes and materials resulting from the used EV battery fire; and

f) Within 15 days after each incident that requires implementation of the contingency plan, submit to the Agency in writing an incident report that includes, at a minimum:

1) The name, address, and telephone number of the used EV battery storage site owners and operators;

2) The name, address, and telephone number of the used EV battery storage site;

3) The date, time, and type of incident (e.g., fire or explosion);

4) The type and quantity of materials involved in the incident;

5) The extent of injuries, if any;

6) Remedial actions taken in response to the incident;

7) A list of other agencies involved in the response to the incident;

8) An assessment of actual or potential hazards to human health or the environment as a result of the incident;

9) The estimated quantity and disposition of fire runoff and any released material that resulted from the incident; and

10) A plan and schedule for completing all used EV battery storage site remediation required under all applicable federal and State laws and regulations.

Section 1220.225 Removal Performance Standard

The owner or operator of a used EV battery storage site required to submit a battery removal cost estimate under Section 1220.620 must, when engaging in battery removal, remove used EV batteries from the site in a manner that:

a) Minimizes the need for further maintenance or remediation with respect to the used EV batteries;

b) Removes all used EV batteries and any residues ~~therefrom~~;

c) Safely transports all used EV batteries to a battery recycling facility, and all non-recyclable material to a disposal facility; and

d) Protects human health during the removal and post removal periods.

SUBPART C: RESERVED FOR FUTURE AMENDMENTS

SUBPART D: RESERVED FOR FUTURE AMENDMENTS

SUBPART E: RECORDKEEPING AND REPORTING

Section 1220.500 Applicability

The owners and operators of any used EV battery storage site where 5,000 kilograms (11,023 pounds) or more of used EV batteries are ~~located~~ stored at any one time are subject to this Subpart.

Section 1220.505 Records

a) The owner and operator of the used EV battery storage site must keep the following records:

1) Battery Tracking Receipts, in ~~accordance~~ compliance with Section 1220.510;

2) Weekly Battery Records, in ~~accordance~~ compliance with Section 1220.515; and

3) Annual Battery Summaries, in ~~accordance~~ compliance with Section 1220.520.

b) All records listed in subpart (a) must be in a form and in a format as prescribed by the Agency. The records must be maintained on site and made available for inspection and photocopying by the Agency during normal business hours.

Section 1220.510 Battery Tracking Receipts

a) Upon receiving any used EV batteries at the used EV battery storage site, the owner or operator of the used EV battery storage site must provide a receipt to the transporter and keep a copy of the receipt. The receipt must include ~~all of~~ the following: the signature of the owner or operator; the name ~~and special waste hauler permit number~~ of the transporter; the signature of the transporter; the name, address, and telephone number of the site where used EV batteries were received; the date the used EV batteries were received at the site; ~~and~~ the number or weight, in kilograms, of used EV batteries received at the site; and the battery chemistry, or if unavailable, the make, model, and year of the vehicle from which the used EV battery was removed ~~from~~.

b) Upon transporting any used EV batteries from the used EV battery storage site, the transporter must provide a receipt to the owner or operator and keep a copy of

the receipt. The receipt must include all of the following: the signature of the owner or operator; the name ~~and registration number~~ of the transporter; the signature of the transporter; the date the used EV batteries were transported from the site; the number or weight, in kilograms, of used EV batteries transported from the site; the battery chemistry, or if unavailable, the make, model, and year of the vehicle from which the used EV battery was removed ~~from;~~ and the destinations of the used EV batteries.

c) Owners and operators of used EV battery storage sites must maintain on-site a record of the receipt and disposition of all used EV batteries, including~~, but not limited to~~:

1) Receipts for any used EV batteries received at the used EV battery storage site; and

2) Receipts for any used EV batteries that are transported from the site.

d) Upon removal of any used EV batteries from a vehicle at the site, the owner or operator must retain a receipt of the battery removal. The receipt must include all of the following: the signature of the owner or operator; the VIN and model of the vehicle from which the used EV batteries were removed; the date the used EV batteries were removed; and the weight, in kilograms, of used EV batteries removed from the vehicle.

Section 1220.515 Weekly Battery Record

a) The owner or operator of the used EV battery storage site must maintain a Weekly Battery Record at the used EV battery storage site. The Weekly Battery Record must include, ~~at a minimum,~~ the day of the week, the date, the Agency designated site number, the site name and address, and the additional information required under this Section.

b) Information relative to the weekly receipt and disposition of used EV batteries at the used EV battery storage site must be recorded in the Weekly Battery Record, including~~, but not limited to~~:

1) The name ~~and registration number~~ of each transporter who transported used EV batteries to the site during the operating day~~, and~~ the weight, in kilograms, of used EV batteries received at the site from each transporter during the operating day, and the chemistry, or if unavailable, the make, model, and year of the vehicle from which the battery was removed ~~from~~;

2) The name ~~and registration number~~ of each transporter who transported used EV batteries from the site during the operating day, the weight, in kilograms, of used EV batteries transported from the site by each transporter during the operating day, and the name, address, and telephone number of the destination facility;

3) The weight, in kilograms, of used EV batteries removed from any vehicle on site and the chemistry, or if unavailable, the make, model, and year of

the vehicle from which the battery was removed ~~from~~;

4) The weight, in kilograms, of used EV batteries recycled at the site during the operating day; and

5) The weight, in kilograms, of used EV batteries remaining at the site at the conclusion of the operating day.

c) Entries on the Weekly Battery Record required to be made under this Section must be made by the end of each operating week.

Section 1220.520 Annual Battery Summary

a) The owner or operator of the used EV battery storage site must submit an Annual Battery Summary to the Agency for each calendar year. The Annual Battery Summary must include the Agency designated site number, the used EV battery storage site name and address, and the calendar year for which the summary applies.

b) Information relative to the annual receipt and disposition of used EV batteries at the used EV battery storage site must be reported in the Annual Battery Summary, including, but not limited to:

1) The weight, in kilograms, of used EV batteries received at the site during the calendar year;

2) The weight, in kilograms, of used EV batteries removed from vehicles at the site during the calendar year;

3) The weight, in kilograms, of used EV batteries recycled on site during the calendar year;

4) The weight, in kilograms, of used EV batteries stored at the site during the calendar year; and

5) The weight, in kilograms, of used EV batteries remaining in storage at the site at the conclusion of the calendar year.

c) The Annual Battery Summary must be received by the Agency on or before ~~January~~ February ~~3~~1st of each year and must cover the preceding calendar year.

Section 1220.525 Certification

a) All records, summaries, and reports submitted to the Agency as required by this Subpart must be signed by a person designated by the owner or operator of the battery storage site as responsible for preparing and reviewing those documents as part of ~~his or her~~that person's duties in the regular course of business.

b) Any person signing a document submitted under this Part must make the following certification:

> I certify that I am responsible for preparing and reviewing this document and that this document and all attachments were prepared under my direction or supervision as part of my duties in the regular course of business. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are
>
> significant penalties under Section 44 of the Environmental Protection Act, 415 ILCS 5/44, including the possibility of fine and imprisonment for knowingly submitting false information.

Section 1220.530 Retention of Records

Copies of all records required to be kept under this Subpart must be retained by the owner and operator of the battery storage site for three years and must be made available at the battery storage site during the normal business hours of ~~the~~ operation~~r~~ for inspection and photocopying by the Agency.

SUBPART F: FINANCIAL ASSURANCE

Section 1220.600 Scope and Applicability

a) Except ~~to the extent~~as exempted by subsection (b), owners and operators of any used EV battery storage site must comply with this Subpart prior to storing of any used EV batteries.

b) Owners and operators of any used EV battery storage site where the real estate is owned by the following is exempt from this Subpart:

1) The United States or one of its agencies;

2) The State of Illinois or one of its agencies; or

3) A unit of local government.

Section 1220.605 Maintaining Financial Assurance

a) Except as otherwise provided in subsection (b), the owner or operator of the used EV battery storage site must at all times maintain financial assurance in an amount equal to or greater than the current approved removal cost estimate calculated ~~pursuant to~~under Section 1220.620 until the owner or operator is released from financial assurance requirements under Section 1220.610.

b) Within 60 days after the occurrence of any event listed in this subsection (b), the

owner or operator of the battery storage site must increase the total amount of financial assurance to an amount that is equal to or greater than the current removal cost estimate calculated ~~pursuant to~~under Section 1220.620:

1) The current removal cost estimate increases; or

2) The value of a trust fund established ~~pursuant to~~under Section 1220.640 decreases.

Section 1220.610 Release of Financial Institution

The Agency must release a trustee, bank, surety or other financial institution as soon as practicable after the owner or operator of the used EV battery storage site makes a written

request for release and demonstrates that either one of the following events has occurred:

a) The owner or operator of the used EV battery storage site has substituted alternate financial assurance that meets the requirements of this Subpart such that the total financial assurance for the site is equal to or greater than the current removal cost estimate, without counting the amounts to be released; or

b) The Agency has released the owner or operator of the battery storage site from the requirements of this Subpart following completion of removal.

Section 1220.615 Application of Proceeds and Appeal

a) The Agency may sue in any court of competent jurisdiction to enforce its rights under financial instruments used to provide the financial assurance required under this Subpart. The filing of an enforcement action before the Board is not a condition precedent to such an Agency action, except when this Subpart or the terms of the instrument provide otherwise.

b) As provided in Titles VIII and IX of the Act and 35 Ill. Adm. Code 103 and 104, the Board may order that an owner or operator of a used EV battery storage site modify a removal plan or order that proceeds from financial assurance be applied to the execution of a removal plan.

c) The following Agency actions may be appealed to the Board as an Agency Final Decision ~~permit denial pursuant to~~under 35 Ill. Adm. Code 105:

1) A refusal to accept financial assurance tendered by the owner or operator;

2) A refusal to release the owner or operator from the requirement to maintain financial assurance;

3) A refusal to release excess funds from a trust;

4) A refusal to approve a reduction in the penal sum of a bond; or

5) A refusal to approve a reduction in the amount of a letter of credit.

~~5)~~6) A refusal to approve a written estimate of removal costs.

Section 1220.620 Removal Cost Estimate

a) By February 1st of each year, the owner or operator must submit to the Agency, a written estimate of the cost of removing the maximum number of used EV batteries that will be accumulated at the site at any time. ~~This cost estimate must be submitted by the owner or operator along with the annual registration required under Section 22.23f(c) of the Act.~~ Any removal cost estimate must be submitted on forms prescribed by the Agency.

1) If the Agency rejects a written estimate, the owner or operate must submit a corrected written estimate within 30 days of the rejection notice.

b) In addition, the owner or operator must revise the removal cost estimate and

submit the revised estimate before making or having made at the site any change that would increase the removal cost estimate, including, ~~but not limited to,~~ an increase in the maximum accumulation of used EV batteries that will be accumulated at the site at any one time.

c) The owner or operator must base the removal cost estimate on costs to the Agency under a contract to perform battery removal actions in the area in which the site is located.

d) The removal cost estimate must~~, at a minimum,~~ include all costs for all activities necessary to remove all used EV batteries complying with all requirements of this Part.

e) Once the owner or operator has completed an activity described in subsection (c), the owner or operator may revise the removal cost estimate indicating that the activity has been completed and zeroing that element of the removal cost estimate.

Section 1220.625 Mechanisms for Financial Assurance

The owner or operator ~~may~~ must use any one of the following mechanisms to provide financial assurance for removal of used EV batteries or may use a combination of these mechanisms to the extent authorized under Section 1220.640:

a) A trust fund (Section 1220.640);

b) A surety bond guaranteeing payment (Section 1220.645); or

b) A letter of credit (Section 1220.650).

Financial assurance mechanisms must be submitted on forms prescribed by the Agency.

Section 1220.630 Use of Multiple Financial Mechanisms

An owner or operator may satisfy the requirements of this Subpart by establishing more than one financial mechanism listed in Section 1220.625 per site. These mechanisms listed in Section 1220.625 include trust funds, surety bonds guaranteeing payment, and letters of credit. The mechanisms must be as specified in Sections 1220.640, 1220.645, and 1220.650 respectively, except that it is the combination of mechanisms, rather than any single mechanism, that must provide financial assurance for an amount at least equal to the current approved removal cost estimate. An owner or operator that uses a trust fund in combination with a surety bond or a letter of credit may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The owner or operator may use any or all of the mechanisms specified in Sections 1220.640, 1220.645, and 1220.650 to provide for removal.

Section 1220.635 Use of a Financial Mechanism for Multiple Sites

An owner or operator may use a financial assurance mechanism specified in this Subpart to meet the requirements of this Subpart for more than one site. Evidence of financial assurance submitted to the Agency must include a list showing, for each site, the name, address and the amount of funds assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each site. The amount of funds available to the Agency must be sufficient to remove used EV batteries from all of the owner or operator's sites.

Section 1220.640 Trust Fund

a) An owner or operator may satisfy the requirements of this Subpart by establishing a trust fund that conforms to the requirements of this Section and submitting an originally signed duplicate of the trust agreement to the Agency.

b) The trustee must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

c) The trust agreement must be irrevocable, must be on forms prescribed by the Agency, must be accompanied by a formal certification of acknowledgment on a form prescribed by the Agency, and must contain provisions addressing, at a minimum, the establishment, management, and termination of the trust and a schedule listing, at a minimum, the sites covered by the trust, the current approved removal cost for each of those sites, and prohibitions against third party access to the trust funds other than as provided in the trust agreement. The schedule required under this subsection (c) must be in the form prescribed by the Agency and must be updated within 60 days after a change in the amount of the current approved removal cost for any site covered by the trust.

d) Payments into the Trust

1) The owner or operator must make a payment into the trust fund each year

during the pay-in period. However, after expiration of the pay-in period, neither the owner nor the operator may use a pay-in period to fund the trust and must instead make a lump sum payment to further fund the trust.

2) The pay-in period is three years and commences on the date any of the sites covered by the trust agreement first receives used EV batteries.

3) Annual payments are determined by the following formula:

Annual payment = (CE-CV)/Y

where:

CE = Current total approved removal cost estimate for all sites covered by the trust agreement
CV = Current value of the trust fund
Y = Number of years remaining in the pay in period.

4) The owner or operator must make the first annual payment before used EV batteries are received at a site covered by the trust agreement. Before receiving used EV batteries at a site covered by the trust agreement, the owner or operator must submit to the Agency a receipt from the trustee for the first annual payment.

5) Subsequent annual payments must be made no later than 30 days after each anniversary of the first payment.

6) The owner or operator may either accelerate payments into the trust fund or may deposit the full amount of the current approved removal cost estimate at the time the fund is established.

7) The owner or operator must maintain the value of the fund at no less than the value the fund would have if annual payments were made as specified in subsection (d)(3).

8) If the owner or operator establishes a trust fund after having used one or more alternative mechanisms, the first payment must be in at least the amount the fund would contain if the trust fund were established initially and payments made as provided in subsection (d)(3).

e) The trustee must evaluate the trust fund annually as of the anniversary of the day the trust was created or on such other date as may be provided in the agreement. Within 30 days after the evaluation date each year, the trustee must furnish the owner or operator and the Agency with a statement confirming the value of the trust fund within 30 days after the evaluation date. The failure of the owner or operator to object in writing to the trustee within 90 days after the statement has been furnished to the owner or operator and the Agency constitutes a conclusively binding assent by the owner or operator, barring the owner or operator from

asserting any claim or liability against the trustee with respect to matters disclosed in the statement.

f) After the pay-in period is completed, whenever the removal cost estimate changes, the owner or operator must compare the new estimate with the trustee's

most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator must, within 60 days after the change in the removal cost estimate, either deposit an amount into the fund so that its value after this deposit at least equals the amount of the removal cost estimate, or obtain other financial assurance as specified in this Subpart to cover the difference.

g) Release of excess funds:

1) If the value of the trust fund is greater than the total amount of the current approved removal cost estimate, the owner or operator may submit a written request to the Agency for a release of the amount in excess of the current approved removal cost estimate.

2) If an owner or operator substitutes other financial assurance as specified in this Subpart for all or part of the trust fund, he or she may submit a written request to the Agency for release of the amount in excess of the current approved removal cost estimate covered by the trust fund.

3) As soon as practicable after receiving a request from the owner or operator for a release of funds ~~pursuant to~~under this subsection (g) but not more than 120 days following the Agency's receipt of the request, the Agency must instruct the trustee to release to the owner or operator such funds as the Agency specifies in writing to be in excess of the current approved removal cost estimate.

h) Reimbursement for removal expenses:

1) After initiating removal, an owner or operator, or any other person authorized to perform removal, may request reimbursement for partial or final removal expenditures, by submitting itemized bills to the Agency. The owner or operator may request reimbursements for partial removal only if sufficient funds remain in the trust fund to cover the costs of removal.

2) As soon as practicable after receiving the itemized bills for partial or final removal activities, but no more than 120 days following the Agency's receipt of the itemized bills, the Agency must determine whether the expenditures are ~~in accordance with~~according to the removal plan. If the Agency determines, based on the information available to it, that the remaining cost of removal will be less than the value of the trust fund, the Agency must instruct the trustee to make reimbursement in ~~such~~ the amounts as the Agency specifies in writing as expenditures ~~in accordance with~~according to the removal plan.

3) If the Agency determines, based on such information as is available to it, that the remaining cost of removal will be greater than the value of the trust fund, it must withhold reimbursement of such amounts as it determines are necessary to preserve the trust corpus in order to accomplish removal until it determines that the owner or operator is no longer required to maintain financial assurance for removal. In the event the fund is inadequate to pay all claims after removal is completed, the Agency must pay claims according to the following priorities:

A) Persons with whom the Agency has contracted and authorized to perform removal activities (first priority);

B) Persons who have completed removal activities authorized by the Agency (second priority);

C) Persons who have completed work which furthered the removal (third priority);

D) The owner or operator and related business entities (last priority).

Section 1220.645 Surety Bond Guaranteeing Payment

a) An owner or operator may satisfy the requirements of this Subpart by obtaining a surety bond that conforms to the requirements of this Section and submitting the bond to the Agency.

b) The surety company issuing the bond must~~, at a minimum,~~ be among those listed as acceptable sureties on federal bonds in Circular 570 of the U.S. Department of the Treasury.

c) The surety bond must be on standardized forms prescribed by the Agency and must contain provisions concerning, at a minimum, the penal sum and term of the bond, conditions upon which the bond is payable and cancellable and payments into the standby trust fund.

d) An owner or operator who uses a surety bond must also establish a standby trust fund. Under the terms of the bond, all payments made under the surety bond must be deposited by the surety directly into the standby trust fund ~~in accordance with~~according to instructions from the Agency. The standby trust fund must meet the requirements of a trust fund specified in Section 1220.640, except that:

1) The owner or operator must submit an originally signed duplicate of the trust agreement to the Agency with the surety bond; and

2) Until the standby trust is funded ~~pursuant to the requirements of~~under this Section, none of the following are required:

A) Payments into the trust fund as specified in Section 1220.640;

B) Updating the trust agreement schedule in Section 1220.640(c) to show the current approved removal cost estimates;

C) Annual valuations as required by the trust agreement; or

D) Notices of nonpayment as required by the trust agreement.

e) Conditions

1) The bond must guarantee that the owner or operator will either:

A) Perform removal ~~in accordance with~~according to the removal plan; or

B) Within 90 days after receipt by both the owner or operator and the Agency of a notice of cancellation of the bond from the surety, provide alternate financial assurance in ~~accordance~~ compliance with this Subpart and obtain the Agency's written approval of the assurance provided.

2) The surety will become liable on the bond obligation when, under the terms of the bond, the owner or operator fails to perform as guaranteed by the bond. The owner or operator fails to perform when the owner or operator does any one or more of the following:

A) Abandons the battery storage site;

B) Is adjudicated bankrupt;

C) Fails to initiate removal when ordered to do so by the Board ~~pursuant to~~under Title VIII of the Act, or when ordered to do so by a court of competent jurisdiction; or

D) Fails, within 90 days after receipt by both the owner or operator and the Agency of a notice of cancellation of the surety bond, to provide alternate financial assurance and obtain the Agency's written approval of the assurance provided.

f) Penal Sum

1) The penal sum of the bond must be in an amount at least equal to the current approved removal cost estimate, except as provided in Section 1220.620.

2) If the current removal cost estimate decreases, the penal sum may be reduced to the amount of the current approved removal cost estimate following written approval by the Agency.

3) If the current removal cost estimate increases to an amount greater than

the penal sum and if that increase is not due to an increase in the maximum accumulation of used EV batteries at the battery storage site, the owner or operator must, within 60 days after the increase in the removal cost estimate, either:

A) Cause the penal sum to be increased to an amount at least equal to the current removal cost estimate and submit evidence of the increase to the Agency; or

B) Obtain alternate financial assurance in ~~accordance~~ compliance with this Subpart to cover the increase in the removal cost estimate and submit evidence of the alternate financial assurance to the Agency.

4) If the current removal cost estimate increases to an amount greater than the penal sum and if that increase is due to an increase in the maximum accumulation of used EV batteries at the battery storage site, the owner or operator must, within 60 days after the increase in the removal cost estimate:

A) Remove the excess used EV batteries to meet the current approved removal cost estimate;

B) Cause the penal sum to be increased to an amount at least equal to the current removal cost estimate and submit evidence of the increase to the Agency; or

C) Obtain other financial assurance, as specified in this Subpart, to cover the increase in the removal cost estimate and submit evidence of the alternative financial assurance to the Agency.

g) Terms

1) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Agency. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Agency, as evidenced by the return receipts.

2) The Agency must release the surety by providing the owner or operator and the surety with written authorization for termination of the bond as soon as practicable after any of the following occur:

A) An owner or operator substitutes alternate financial assurance that meets the requirements of this Subpart such that the total financial assurance for the site is equal to or greater than the current approved removal cost estimate, without counting the amounts to be released; or

B) The Agency releases the owner or operator from the requirements of this Subpart following completion of removal.

Section 1220.650 Letter of Credit

a) An owner or operator may satisfy the requirements of this Subpart by obtaining an irrevocable standby letter of credit that conforms to the requirements of this Section and submitting the letter of credit to the Agency.

b) The issuing institution must be an entity that has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a federal or state agency.

c) Forms:

1) The letter of credit must be on standardized forms prescribed by the Agency.

2) The letter of credit must be accompanied by a letter from the owner or operator, referring to the letter of credit by number, issuing institution and date, and providing, at a minimum, the following information: the Agency designated site number, the name and address of the battery storage site, and the amount of funds assured for removal from the site by the letter of credit.

d) An owner or operator who uses a letter of credit to satisfy the requirements of this Subpart must also establish a standby trust fund. Any amounts drawn by the Agency ~~pursuant to~~under the letter of credit must be deposited in the standby trust fund. The standby trust fund must meet the requirements of a trust fund specified in Section 1220.640, except that:

1) The owner or operator must submit an originally signed duplicate of the trust agreement to the Agency with the letter of credit; and

2) Unless the standby trust is funded ~~pursuant to the requirements of~~under this Section, none of the following are required:

A) Payments into the trust fund as specified in Section 1220.640;

B) Updating the trust agreement schedule in Section 1220.640(c) to show the current approved removal cost estimates;

C) Annual valuations as required by the trust agreement; or

D) Notices of nonpayment as required by the trust agreement.

e) Conditions on which the Agency may draw on the letter of credit:

1) The Agency may draw on the letter of credit if the owner or operator fails to perform removal ~~in accordance with~~according to the removal plan.

2) The Agency may draw on the letter of credit when the owner or operator does any one or more of the following:

A) Abandons the battery storage site;

B) Is adjudicated bankrupt;

C) Fails to initiate removal when ordered to do so by the Board ~~pursuant to~~under Title VIII of the Act, or when ordered to do so by a court of competent jurisdiction;

D) Within 90 days after receipt by both the owner or operator and the Agency of a notice from the issuing institution that the letter of credit will not be extended for another term, fails to provide additional or substitute financial assurance under this Subpart.

f) Amount:

1) The letter of credit must be issued in an amount at least equal to the current approved removal cost estimate, except as provided in Section 1220.620.

2) If the current removal cost estimate decreases, the penal sum may be reduced to the amount of the current approved removal cost estimate following written approval by the Agency.

3) If the current removal cost estimate increases to an amount greater than

the credit and if that increase is not due to an increase in the maximum accumulation of used EV batteries at the battery storage site, the owner or operator must, within 60 days after the increase in the removal cost estimate, either:

A) Cause the amount of the credit to be increased to an amount at least equal to the current removal cost estimate and submit evidence of the increase to the Agency; or

B) Obtain alternate financial assurance in ~~accordance~~ compliance with this Subpart to cover the increase in the removal cost estimate and submit evidence of the alternate financial assurance to the Agency.

4) If the current removal cost estimate increases to an amount greater than the credit and if that increase is due to an increase in the maximum accumulation of used EV batteries at the battery storage site, the owner or operator must, within 60 days after the increase in the removal cost estimate:

A) Remove the excess used EV batteries to meet the current approved removal cost estimate;

B) Cause the amount of the credit to be increased to an amount at least equal to the current removal cost estimate and submit evidence of the increase to the Agency; or

C) Obtain other financial assurance, as specified in this Subpart, to cover the increase in the removal cost estimate and submit evidence of the alternative financial assurance to the Agency.

g) Term:

1) The letter of credit must be irrevocable and issued for a period of at least one year.

2) The letter of credit must provide that, on its current expiration date and on each successive expiration date, the letter of credit will be automatically extended for a period of at least one year, unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner and operator and the Agency, by certified mail, of a decision not to extend the letter of credit for another term. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Agency have received the notice, as evidenced by the return receipts.

3) The Agency must return the letter of credit to the issuing institution for termination as soon as practicable after any of the following occur:

A) An owner or operator substitutes alternate financial assurance that meets the requirements of this Subpart such that the total financial assurance for the site is equal to or greater than the current

approved removal cost estimate, without counting the amounts to be released; or

B) The Agency releases the owner or operator from the requirements of this Subpart following completion of removal.