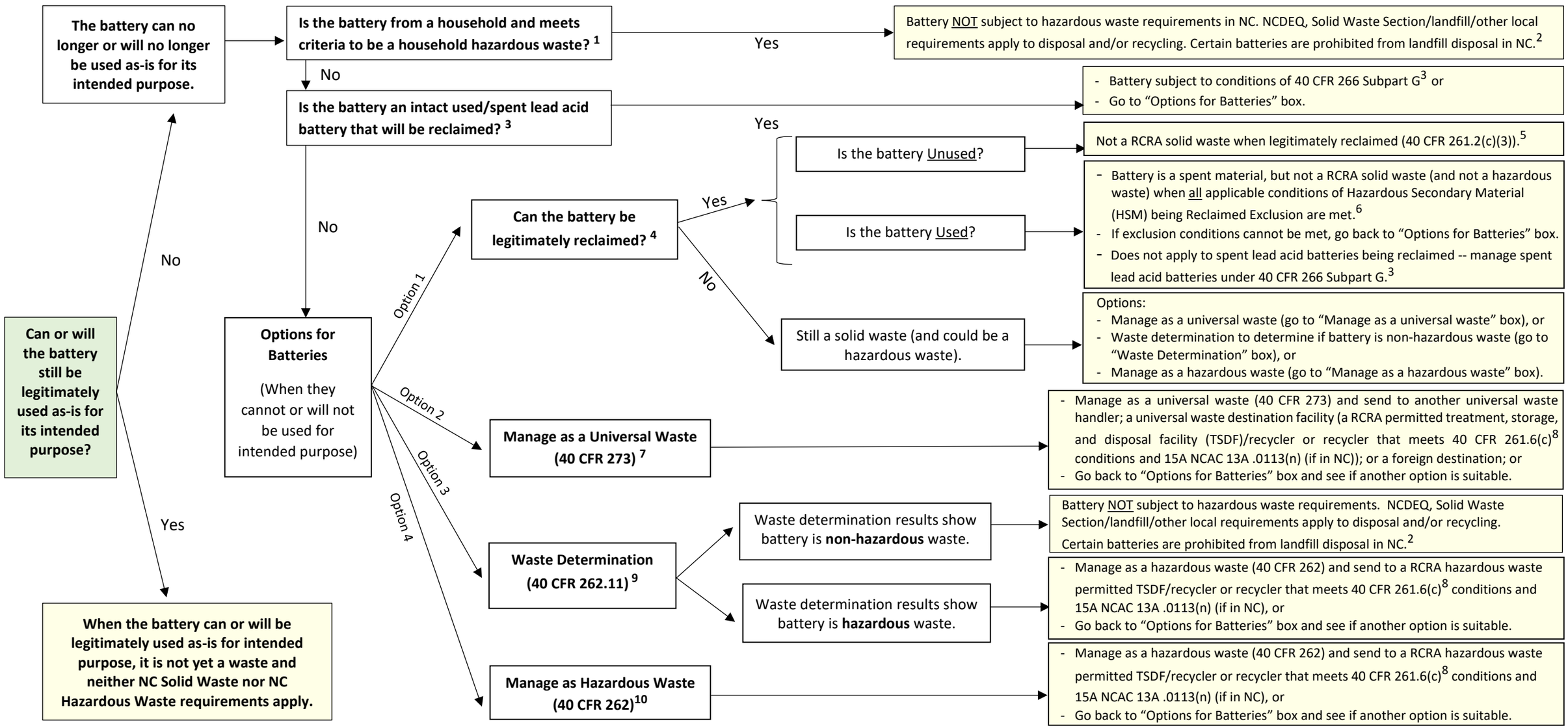
NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF WASTE MANAGEMENT
HAZARDOUS WASTE SECTION

(Print first page on legal size paper)

Generator Options for the Management of Discarded Batteries*



Generator Options for the Management of Discarded Batteries

* This document provides an overview of the options for management of batteries that can no longer or will no longer be used for their intended purpose. This document is for guidance only and does not contain all of the North Carolina Hazardous Waste Management Rules. Many of the requirements described are paraphrased. For complete rules refer to 15A NCAC 13A for specific state requirements and federal regulations incorporated by reference in the state rules. State law associated with hazardous waste can be found in Article 1 and 9 of N.C.G.S. 130A. Federal regulations described in this document have been adopted by reference in state rules at 15A NCAC 13A (link to federal regulation/state rule crosswalk). The following Hazardous Waste Section website provides links to state hazardous waste rules and law: https://deq.nc.gov/about/divisions/waste-management/hw/rules

Battery *(*has the same definition in 40 CFR 260.10 and 40 CFR 273.9*)* means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

A ***discarded material*** is defined in 40 CFR 261.2, but very simply stated for the purposes of this document:
A discarded battery is a battery which is disposed of or recycled and includes a battery that is accumulated, stored, or treated before being disposed of or recycled.

Most batteries exhibit one or more hazardous waste characteristics described in 40 CFR 261 Subpart C. In North Carolina (NC) specific requirements apply to a battery that exhibits one or more hazardous waste characteristics when the battery is disposed or recycled. This document focuses on the requirements that apply to the battery at the point of generation (when the battery is discarded). However, there are also requirements for sites that receive batteries from off-site for disposal or recycling (see Frequent Questions section for information on receiving off-site batteries and requirements for processing batteries).

A battery (not from a household) that is determined to be non-hazardous in accordance with 40 CFR 262.11 (determination must be made prior to discharging or processing the battery) is not subject to hazardous waste regulation in NC. This includes not being subject to universal waste regulation under 40 CFR 273.

Additional and/or different requirements may apply to discarded batteries from a different state (entering NC) or that will be going from NC to another state (this includes but is not limited to when a discarded battery is generated/managed, transported to or through, reclaimed, and/or disposed). Check with each generating state/receiving state and any state the discarded batteries will be transported to/through to ensure compliance with all applicable requirements.

If you have questions or would like additional information, contact the Hazardous Waste Section Inspector who covers the region where your site is located.

[1] **Household Hazardous Waste (HHW) exclusion** (40 CFR 261.4(b)(1), adopted by reference at 15A NCAC 13A .0106(a)):

- "Household waste" means any material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas).
- Household waste, includes household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused, and is a solid waste but not a hazardous waste (even if the household waste exhibits a characteristic of hazardous waste). No hazardous waste determination is required on these wastes.
- In order for household waste to be exempt from regulation, it must meet two criteria:
  - The waste must be generated by individuals on the premises of a household, and
  - The waste must be composed primarily of materials found in the waste generated by consumers in their homes.
- Wastes generated from the construction, renovation, or demolition of residence do not qualify for the HHW exclusion (except in some specific instances involving lead based paint abatement).
- Even though HHW is exempt from hazardous waste regulation, there are certain items (including batteries) that are prohibited from disposal in a NC landfill (North Carolina General Statute (NCGS) 130A-309.10).
  - NC Session Law (SL) 2023-137 amended NCGS 130A-309.10(f) and specifically prohibits lithium ion batteries from being disposed of in any landfill in NC effective December 1, 2026.
- Additional information can be found on EPA's Used Household Batteries webpage at this link: https://www.epa.gov/recycle/used-household-batteries

[2] **North Carolina Landfill Prohibitions** (North Carolina General Statute (NCGS) 130A-309.10)

Even when non-hazardous or exempt from hazardous waste regulation, specific items (including certain batteries) are banned from NC landfills. For more information on items banned from NC landfills, visit the NCDEQ Solid Waste Section webpage at this link: https://www.deq.nc.gov/about/divisions/waste-management/solid-waste-section/compliance-and-monitoring/items-banned-disposal-landfills

NC SL 2023-137 amended NCGS 130A-309.10(f) and specifically prohibits lithium ion batteries from being disposed of in any landfill in NC effective December 1, 2026.

Additionally, hazardous waste (including hazardous waste from a very small quantity generator) and any kind of liquid (even when non-hazardous) are prohibited from disposal in NC landfills (15A North Carolina Administrative Code (NCAC) 13B .0103(d)).

[3] **Spent Lead Acid Batteries Being Reclaimed** (40 CFR 266 Subpart G, adopted by reference at 15A NCAC 13A .0111(c)):

Lead acid batteries typically exhibit the hazardous waste characteristics for corrosivity (D002) and toxicity for lead (D008). If a site generates, collects, transports, stores, or regenerates spent lead-acid batteries for reclamation purposes, that site may be exempt from certain hazardous waste management requirements. Use the table in 40 CFR 266 Subpart G to determine which requirements applies to the site. Alternatively, spent lead-acid batteries may be managed as a Universal Waste (40 CFR part 273) or as a hazardous waste.

Spent is defined at 40 CFR 261.1(c)(1) and means, it has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.

Important information when using this material specific exemption:

- Though not mentioned specifically in the regulations, this exemption only applies to intact lead acid batteries that are spent and destined for reclamation (EPA RCRA Online (RO) Document: RO 14147).

- To be eligible for this exemption, spent lead acid batteries must be destined for *reclamation* and not disposal. Reclamation is defined at 40 CFR 261.1(c)(4) and means, processed to recover a usable product or it is regenerated.
- This exemption may not be used for new batteries. *Spent* is defined at 40 CFR 261.1(c)(1) and means, it has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing.
- Only lead acid batteries (liquid or dry) are eligible for this exemption. Other batteries (e.g., lithium, mercury, silver, nickel/cadmium, etc.), do not qualify for this exemption but can be managed as a universal waste (40 CFR 273).

[4] **Legitimately Reclaimed**

In order for material (like batteries) to be legitimately reclaimed, the end disposition of the material must be reclamation and not disposal and the three legitimacy factors of 40 CFR 260.43(a) must be met and 40 CFR 260.43(b) must be considered.

- The legitimacy criteria described in 40 CFR 260.43, adopted by reference at 15A NCAC 13A .0103(c) apply to any hazardous secondary material that is recycled.
  - A *hazardous secondary material* (HSM) is a regulatory term that means a secondary material (e.g., spent material, by-product, sludge, commercial chemical product) that, when disposed, would be identified as hazardous waste under 40 CFR part 261, adopted by reference at 15A NCAC 13A .0106. Since the HSM is being reclaimed the term hazardous secondary material is used to differentiate it from hazardous waste, but there are often still requirements that apply to HSM even when it is reclaimed. Sometimes "HSM" is used as shorthand for excluded or exempted recyclable material.
  - Reclamation is a form of recycling.
    - A material is "*recycled*" if it is used, reused, or reclaimed. (40 CFR 261.1(c)(7), adopted by reference at 15A NCAC 13A .0106(a))
    - A material is "*reclaimed*" if it is processed to recover a usable product, or if it is regenerated. (40 CFR 261.1(c)(4), adopted by reference at 15A NCAC 13A .0106(a))
- Sham recycling (40 CFR 261.2(g), adopted by reference at 15A NCAC 13A .0106(a)) is recycling that is not legitimate recycling as defined in 40 CFR 260.43. A hazardous secondary material found to be sham recycled is considered discarded and a RCRA solid waste (which may be a hazardous waste – and could be subject to full regulation as a hazardous waste).

[5] **Unused Battery (that will be legitimately reclaimed)**

An unused battery is considered a "commercial chemical product" that when legitimately reclaimed is not considered a RCRA solid waste (or hazardous waste) (40 CFR 261.2(c)(3)), adopted by reference at 15A NCAC 13A .0106(a)).

- A *commercial chemical product* (CCP) is an unused chemical intermediate, off-specification variant, or spill or container residues as defined in 40 CFR 261.33 (50 FR 618; January 4, 1985). Although 40 CFR 261.2(c)(3), Table 1, applies this provision to CCPs listed in 40 CFR 261.33, EPA interprets the CCP term to also include CCPs that are not listed in 40 CFR 261.33 but exhibit one or more of the characteristics of hazardous waste (50 FR 14219; April 11, 1985). CCPs include all types of unused chemical products, including products that would not commonly be considered chemicals (e.g., circuit boards, batteries, and other types of equipment). (EPA RCRA Online (RO) Document RO 11584 and RO 14012.)
- In order to utilize this conditional exclusion from full hazardous waste regulation, the end disposition of the material must be reclamation and not disposal. The following conditions must also be met.
  - See footnote "[4] Legitimately Reclaimed" for additional information on legitimate reclamation.
  - As long as the unused batteries are legitimately reclaimed, and conditions described below are met, unused batteries can go to any site that legitimately reclaims the batteries -- the site receiving the off-site unused batteries does not need to be a RCRA permitted TSD/Recycler or a site that meets transfer based exclusion conditions.

- Different/additional requirements may apply if this activity occurs outside of North Carolina. Check with the generating/receiving state and any state that the batteries travel through to confirm requirements that apply to the unused batteries being reclaimed.
- DOT requirements for transporting hazardous materials may apply, however a hazardous waste manifest is not required for transportation in North Carolina. (Check other state(s) requirements if the unused batteries are transported to another or through another state for reclamation).
- Any claims that materials are not RCRA solid wastes or are conditionally exempt from regulation, must be documented by the facility (40 CFR 261.2(f), adopted by reference at 15A NCAC 13A .0106(a)):
    - Respondents who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulations, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as a contract showing that the commercial chemical product is recycled) to demonstrate that the material meets the criteria to not be considered a solid waste. In addition, the owner or operator of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.
- The three legitimacy factors of 40 CFR 260.43(a) must be met and 40 CFR 260.43(b) must be considered for any material being recycled (reclamation is a form of recycling). Otherwise, the material is considered a solid waste (which may be a hazardous waste – and subject to full regulation as a hazardous waste). An example form to help meet the documentation requirement of 40 CFR 261.2(f) and review the legitimacy criteria of 40 CFR 260.43 can be found at this link: https://files.nc.gov/ncdeq/Waste+Management/DWM/HW/Guidance+Document+table+documents/Template%20for%20Documenting%20Legitimacy%20Factors%20for%20HSM.pdf

[6] **Hazardous Secondary Material Reclamation Exclusions (for used batteries that will be legitimately reclaimed)**

There are three Hazardous Secondary Material (HSM) Reclamation Exclusions listed below and further described below and on the next pages.

- **Generator Controlled Exclusion** (for used batteries that will be legitimately reclaimed under the control of the generator) (40 CFR 261.4(a)(23), adopted by reference at 15A NCAC 13A .0106(a))
- **Transfer Based Exclusion** (for used batteries transferred to another site (not under the control of the generator) for reclamation) (40 CFR 261.4(a)(24), adopted by reference at 15A NCAC 13A .0106(a))
- **Export Reclamation Exclusion** (for used batteries exported from the US and reclaimed at a reclamation facility located in a foreign country) (40 CFR 261.4(a)(25), adopted by reference at 15A NCAC 13A .0106(a))

Generator Controlled Exclusion (for used batteries that will be legitimately reclaimed under the control of the generator) (40 CFR 261.4(a)(23), adopted by reference at 15A NCAC 13A .0106(a))

- The used batteries must be generated and reclaimed by one of the following:
    - Is generated and reclaimed at the generating facility, or
    - Generated and then reclaimed at a different facility controlled by the generator, or
    - Both the generating and the reclaiming facility are controlled by a "Person" as defined in N.C.G.S. 130A-290, or
    - Generated pursuant to a written contract between a *tolling contractor* and a *toll manufacturer* and is reclaimed by the tolling contractor.
- When all conditions of the generator controlled exclusion are met, used batteries that are legitimately reclaimed are not considered a RCRA solid waste (and not a hazardous waste). If any of the conditions of the exclusion are not met, the hazardous secondary material is considered a solid waste and discarded, and the hazardous waste rules may be applicable. See footnote "[4] Legitimately Reclaimed" for additional information on legitimate reclamation.
- Generator controlled exclusion conditions are found at 40 CFR 261.4(a)(23), adopted by reference at 15A NCAC 13A .0106(a).

- NCDEQ Hazardous Waste Section *guidance* for the generator controlled exclusion can be found at this link: https://www.deq.nc.gov/waste-management/dwm/hw/guidance-document-table-documents/generator-controlled-exclusion-guidance-20190816/download

- This option does not apply to spent lead acid batteries being reclaimed. See [3] Spent Lead Acid Batteries Being Reclaimed for information on management of spent lead acid batteries**.**

Transfer Based Exclusion (for used batteries transferred to another site (not under the control of the generator) for reclamation) (40 CFR 261.4(a)(24), adopted by reference at 15A NCAC 13A .0106(a))

- When all conditions of the transfer based exclusion are met, used batteries that are legitimately reclaimed are not considered a RCRA solid waste (and not a hazardous waste). If any of the conditions of the exclusion are not met, the hazardous secondary material is considered a solid waste and discarded, and the hazardous waste rules may be applicable. See footnote " [4] Legitimately Reclaimed" for additional information on legitimate reclamation.
- Transfer based exclusion conditions are found at 40 CFR 261.4(a)(24), adopted by reference at 15A NCAC 13A .0106(a).
  - NCDEQ Hazardous Waste Section *guidance* for the transfer based exclusion can be found at this link: https://www.deq.nc.gov/about/divisions/waste-management/hazardous-waste-section/technical-assistance-and-guidance-documents#HazardousSecondaryMaterialHSM-2201
- If the originating state has adopted the exclusion, but the receiving (or transfer) state has not adopted the exclusion, the hazardous secondary material is subject to the hazardous waste requirements of the receiving state that has not adopted the rule upon reaching the border of that state (e.g., manifesting requirements).
  - EPA's Implementation Guide for the Definition of Solid Waste Exclusion found at 40 CFR 261.4(a)(24) provides important information on interstate transport between states with different versions of the exclusion described at 40 CFR Section 261.4(a)(24): https://www.epa.gov/system/files/documents/2022-08/Implementation_Guide_for_the_DSW_Exclusion_at_40_CFR_261_4_a_24_Final_508.pdf
- When any NC site plans to use this exclusion, contacting your local Hazardous Waste Section Inspector to request compliance assistance is highly recommended to ensure all conditions are met so the used batteries will not be subject to full hazardous waste regulation.
- This option does not apply to spent lead acid batteries being reclaimed. See [3] Spent Lead Acid Batteries Being Reclaimed for information on management of spent lead acid batteries**.**

Export Reclamation Exclusion (for used batteries exported from the US and reclaimed at a reclamation facility located in a foreign country) (40 CFR 261.4(a)(25), adopted by reference at 15A NCAC 13A .0106(a))

- When all conditions of the export reclamation exclusion are met, used batteries that are exported from the US and legitimately reclaimed at a reclamation facility located in a foreign country are not considered a RCRA solid waste (and not a hazardous waste). If any of the conditions of the exclusion are not met, the hazardous secondary material is considered a solid waste and discarded, and the hazardous waste rules may be applicable. See footnote " [4] Legitimately Reclaimed" for additional information on legitimate reclamation.
- Export reclamation exclusion conditions are found at 40 CFR 261.4(a)(25), adopted by reference at 15A NCAC 13A .0106(a).
- When any NC site plans to use this exclusion, contacting your local Hazardous Waste Section Inspector to request compliance assistance is highly recommended to ensure all conditions are met so the used batteries will not be subject to full hazardous waste regulation.
  - EPA administers and enforces export requirements. Your Hazardous Waste Section Inspector can assist with contacting EPA for assistance.
- This option does not apply to spent lead acid batteries being reclaimed. See [3] Spent Lead Acid Batteries Being Reclaimed for information on management of spent lead acid batteries**.**

[7] **Universal Waste** (40 CFR 273, adopted by reference at 15A NCAC 13A .0119)

To encourage recycling, universal waste regulations streamline the hazardous waste management standards for certain categories of hazardous waste that are commonly generated by a wide variety of establishments.

- Batteries are already designated as a federal universal waste. Requirements for universal waste can be found at 40 CFR 273. North Carolina has adopted the federal universal waste provisions (15A NCAC 13A .0119). In North Carolina, any battery that meets the definition of a hazardous waste (when disposed), can be managed as a universal waste battery when the battery is destined to be recycled.
  - In NC, under current universal waste regulations, lithium batteries can be managed as a universal waste.
  - EPA is working on a proposal to establish a new, distinct category of universal waste specifically tailored to lithium batteries. Proposed rules are anticipated in June 2025. More information can be found at this EPA website: https://www.epa.gov/hw/improving-recycling-and-management-renewable-energy-wastes-universal-waste-regulations-solar
  - Some states have not adopted the same federal universal waste categories that North Carolina has adopted and may not recognize batteries as a universal waste. Some states that do recognize batteries as a universal do not recognize *lithium* batteries as a universal waste. Additional and/or different requirements may apply to batteries generated in a different state (entering NC) or that will be going from NC to another state (this includes but is not limited to when a discarded battery is generated/managed, transported to or through, reclaimed, and/or disposed). Check with each generating state/receiving state and any state the discarded batteries will be transported to/through to ensure compliance with all applicable requirements.
- **Universal waste handlers** must comply with the applicable requirements of 40 CFR 273 Subpart B (for small quantity handlers of universal waste) or 40 CFR 273 Subpart C (for large quantity handlers of universal waste). A few noteworthy requirements for universal waste handlers include the following (this is not an inclusive list of requirements).
  - A universal waste handler may only send universal waste to a facility that is a universal waste handler, a universal waste destination facility, or a foreign entity.
  - A universal waste handler (40 CFR 273.13(a)(2) for small quantity handler and 40 CFR 273.33(a)(2) for large quantity handler) may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):
    - Sorting batteries by type;
    - Mixing battery types in one container;
    - Discharging batteries so as to remove the electric charge;
    - Regenerating used batteries;
    - Disassembling batteries or battery packs into individual batteries or cells;
    - Removing batteries from consumer products; or
    - Removing electrolyte from batteries.
- **Universal waste transporters** must comply with the universal waste transporter requirements in 40 CFR 273 Subpart D, adopted by reference at 15A NCAC 13A .0119 as well as any applicable DOT requirements.
- A **universal waste destination facility** is a site is defined at 40 CFR 273.9 and is
  - The owner or operator of a destination facility (as defined in 40 CFR 273.9) is subject to all applicable requirements of parts 40 CFR 264, 265, 266, 268, 270, and 124, and the notification requirement under section 3010 of RCRA.
  - The owner or operator of a destination facility that recycles a particular universal waste without storing that universal waste before it is recycled must comply with 40 CFR 261.6(c)(2).
  - **In addition**, North Carolina has state specific requirements for Off-Site Recycling Facilities described at 15A NCAC 13A .0113(n).

- "Off-site Recycling Facility" is defined in 15A NCAC 13A .0102(d)(5) and means any facility that receives shipments of hazardous waste from off-site to be recycled or processed for recycling through any process conducted at the facility, but does not include any facility owned or operated by a generator of hazardous waste to recycle their own waste.

8 **Requirements for Recyclable Hazardous Waste** (40 CFR 261.6(c), adopted by reference at 15A NCAC 13A .0106(a))

- Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subparts A though L and AA through DD of 40 CFR parts 264 and 265, and under 40 CFR parts 124, 266, 267, 268, and 270 and the notification requirements under section 3010 of RCRA, except as provided in 40 CFR 261.6(a). (The recycling process itself is exempt from regulation except as provided in 40 CFR 261.6(d)).
  - For purposes of this provision, "store" means any recyclable material that cannot be placed immediately into the recycling process.
- Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in 40 CFR 261.6(a):
  - Notification requirements under section 3010 of RCRA.
  - 40 CFR 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies).
  - 40 CFR 261.6(d) (dealing with hazardous waste air emission requirements of 40 CFR 264/265 subparts AA and BB).
  - 40 CFR 265.75 (biennial reporting requirements).

  For purposes of this provision, "not storing" means any recyclable material is placed immediately into the recycling process.
- **In addition** to the above requirements, North Carolina has state specific requirements for Off-Site Recycling Facilities described at 15A NCAC 13A .0113(n).
  - "Off-site Recycling Facility" is defined in 15A NCAC 13A .0102(d)(5) and means any facility that receives shipments of hazardous waste from off-site to be recycled or processed for recycling through any process conducted at the facility, but does not include any facility owned or operated by a generator of hazardous waste to recycle their own waste.

9 **Waste Determination** (40 CFR 262.11, adopted by reference at 15A NCAC 13A .0107(a))

- At this time, a battery is not considered a RCRA listed hazardous waste (listed hazardous wastes are described at 40 CFR 261 Subpart D, adopted by reference at 15A NCAC 13A .0106(d)). However, some batteries exhibit one or more hazardous waste characteristics (40 CFR 261 Subpart C, adopted by reference at 15A NCAC 13A .0106(c)).
  - The Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium, also known as SW-846, is EPA's official collection of methods for use in complying with the Resource Conservation and Recovery Act (RCRA) regulations.
  - The Hazardous Waste Section guidance document Analytical Methods for Characteristic Hazardous Waste Determination provides additional information on hazardous waste characteristics and the test method or recommended test method to use when a test method is not described in regulation.
- It is solely the generator's responsibility to determine whether any waste (as defined in 40 CFR 261.2, adopted by reference at 15A NCAC 13A .0106(a)) is a hazardous waste in accordance with 40 CFR 262.11, adopted by reference at 15A NCAC 13A .0107(c).
  - An accurate determination (in accordance with 40 CFR 262.11) must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change.
    - The waste determination must be made prior to the battery being discharged or processed or otherwise altered.

- "Generators are, and always have been, ultimately responsible for making accurate hazardous waste determinations. Hiring a third party contractor, waste broker, or consultant, or reliance on information provided by suppliers does not transfer this responsibility to those third parties. While the [EPA] understands that reliance on third parties may sometimes result in an inaccurate waste determination, the responsibility remains with the generator. It would be prudent for the generators to practice due diligence and establish processes and procedures that ask questions of their suppliers and waste management companies to understand why their materials are hazardous or not." (81 FR 85750, November 28, 2016)

- If a generator would like to further discuss the use of generator knowledge (including information from the manufacturer) in making a waste determination, contact your local Hazardous Waste Section Inspector: https://www.deq.nc.gov/compliance-map-inspector/download?attachment?attachment

[10] **Manage as a hazardous waste without sampling**

An allowable alternative is to manage batteries as a hazardous waste without TCLP sampling.

- "Another reason for including the language explaining a generator must make an accurate waste determination to ensure the wastes are properly managed is to clarify the applicability of §262.11 in instances in which generators choose to manage their non-hazardous wastes as hazardous wastes. Even if the waste may not be hazardous, "over managing" the waste is acceptable and meets the requirements in §262.11 because the generator has made a determination intended to ensure, beyond a doubt, proper and protective management of the waste within the RCRA regulatory program. The practice of over-managing non-hazardous waste as hazardous waste has been in existence for years and EPA's final language in §262.11 continues to allow this practice." (81 FR 85750, November 28, 2016)

Frequently Asked Questions

Are batteries a hazardous waste?

Some batteries exhibit one or more hazardous waste characteristics (40 CFR 261 Subpart C, adopted by reference at 15A NCAC 13A .0106(c)) for ignitability, corrosivity, reactivity, and/or toxicity. It is solely the generator's responsibility to determine whether any waste (as defined in 40 CFR 261.2, adopted by reference at 15A NCAC 13A .0106(a)) is a hazardous waste in accordance with 40 CFR 262.11, adopted by reference at 15A NCAC 13A .0107(c).

An accurate determination (in accordance with 40 CFR 262.11) must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change.

The waste determination must be made prior to the battery being discharged or processed or otherwise altered.

See footnote "[9] **Waste Determination**" for additional information on making a waste determination.

Can I use a Safety Data Sheet (SDS) or manufacturing information to make the determination on whether a battery (or any item) is hazardous waste or not?

No. While a SDS can sometimes be useful when determining hazardous waste characteristics like corrosivity (since the SDS often provides information on pH) or ignitability (since the SDS often provides information on flashpoint), the SDS is not the appropriate document to use for information about toxicity characteristics. OSHA regulations do not require manufacturers to identify constituents present in material at concentrations below 1% (10,000 ppm) for non-carcinogens and 0.1% (1000 ppm) for carcinogen. The product may contain toxicity characteristic constituents above RCRA regulatory levels even when not identified on the SDS. An SDS can be used to assist with making a waste determination but should not be the sole information used to make a waste determination on a battery.

What requirements apply to a site that processes batteries?

The requirements that apply to sites processing batteries (including sites that receive off-site batteries) depend on whether the batteries meet the definition of a hazardous waste at the point of generation. See footnote "[9] **Waste Determination**" for additional information on making a waste determination. An accurate determination (in accordance with 40 CFR 262.11) must be made at the point of waste generation, before any dilution, mixing, or other alteration of the waste occurs, and at any time in the course of its management that it has, or may have, changed its properties as a result of exposure to the environment or other factors that may change the properties of the waste such that the RCRA classification of the waste may change. The waste determination must be made prior to the battery being discharged or processed or otherwise altered.

"Treatment" (defined in N.C.G.S. 130A-290(a)(42)) means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for

transport, amenable for recovery, amenable for storage or reduced in volume. "Treatment" includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous. For example, discharging a battery, removing electrolyte from a battery, and shredding a battery to separate the battery into its' components are all forms of treatment.

Any site that processes a battery that meets the definition of a hazardous waste at the point of generation is performing treatment of a hazardous waste. Sites that process batteries (including receiving batteries from off-site) that meet the definition of a hazardous waste at the point of generation must have a RCRA hazardous waste permit. Even if the site can process batteries so they are not stored prior to recycling them (40 CFR 261.6(c)(2)), North Carolina has state specific requirements for Off-Site Recycling Facilities that are described at 15A NCAC 13A .0113(n) and compliance with RCRA hazardous waste permit provisions is required.

A few exceptions from requiring a RCRA hazardous waste permit for battery processing include the following. Even though a RCRA hazardous waste permit may not be required for this activity, other federal, state, local requirements may apply to this activity and/or site.

- A universal waste handler (40 CFR 273.13(a)(2) for small quantity handler and 40 CFR 273.33(a)(2) for large quantity handler) may conduct the following activities without a RCRA hazardous waste permit as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):
  - Sorting batteries by type;
  - Mixing battery types in one container;
  - Discharging batteries so as to remove the electric charge;
  - Regenerating used batteries;
  - Disassembling batteries or battery packs into individual batteries or cells;
  - Removing batteries from consumer products; or
  - Removing electrolyte from batteries.

  These permit exempt activities only applies to universal waste handlers. A universal waste handler may not shred a battery without a permit. A universal waste destination facility must have a RCRA hazardous waste permit to perform the above listed activities.

- Hazardous waste generators (small and large quantity generators) are exempt from RCRA permit requirements (40 CFR 270.1(c)(2)) when they treat their own hazardous waste on-site in containers or tanks in compliance with the 40 CFR 262.16 (for small quantity generators) or 40 CFR 262.17 (for large quantity generators). Thermal treatment, however, is not allowed and would require a permit if done by a hazardous waste generator.

- Sites that receive unused batteries that are legitimately reclaimed are not required to obtain a RCRA hazardous waste permit. See footnote "[5] Unused Battery (that will be legitimately reclaimed)" for more information.

- Sites where all applicable conditions of Hazardous Secondary Material (HSM) being Reclaimed Exclusion are met are not required to obtain a RCRA hazardous waste permit. See footnote "[6] Hazardous Secondary Material Reclamation Exclusions (for used batteries that will be legitimately reclaimed)" for additional information.

If the site performs (or plans to perform) any hazardous waste treatment as defined in N.C.G.S. 130A-290(a)(42) it is highly recommended that the site request compliance assistance from the local Hazardous Waste Section Inspector to ensure the site maintains compliance with the complicated requirements.

What other information about batteries is available?

Some EPA guidance documents pertaining to batteries that may be helpful can be found on the following EPA websites:

- EPA RCRA Online website at this link: https://rcrapublic.epa.gov/rcraonline/
  - Click on "Advanced Search" and then enter a key word (e.g., battery) in the "File Text" field.
- Lithium Battery Recycling Regulatory Status and Frequently Asked Questions: https://rcrapublic.epa.gov/files/14957.pdf
- Used Lithium-Ion Batteries: https://www.epa.gov/recycle/used-lithium-ion-batteries
- Lithium-Ion Battery Recycling: https://www.epa.gov/hw/lithium-ion-battery-recycling
- Lithium-Ion Battery Recycling Frequently Asked Questions: https://www.epa.gov/hw/lithium-ion-battery-recycling-frequently-asked-questions
- Battery Collection Best Practices and Battery Labeling Guidelines: https://www.epa.gov/infrastructure/battery-collection-best-practices-and-battery-labeling-guidelines
- Universal Waste: https://www.epa.gov/hw/universal-waste
- Frequent Questions About Universal Waste: https://www.epa.gov/hw/frequent-questions-about-universal-waste
- Universal Waste Regulations for Lithium Batteries: https://www.epa.gov/hw/improving-recycling-and-management-renewable-energy-wastes-universal-waste-regulations-solar
- Used Household Batteries: https://www.epa.gov/recycle/used-household-batteries

If an unused lithium battery that never had electrolyte added is legitimately reclaimed, what requirements apply?

- Although an object that is manufactured to be a battery, but never had electrolyte added to it, does not meet the regulatory definition of a "battery" in 40 CFR 260.10/273.9, the unused object would be considered an *off-specification commercial product* and as long as it is legitimately reclaimed, is not considered a RCRA solid waste (or hazardous waste) (40 CFR 261.2(c)(3)).

  A *commercial chemical product* (CCP) is an unused chemical intermediate, off-specification variant, or spill or container residues as defined in 40 CFR 261.33 (50 FR 618; January 4, 1985). Although 40 CFR 261.2(c)(3), Table 1, applies this provision to CCPs listed in 40 CFR 261.33, EPA interprets the CCP term to also include CCPs that are not listed in 40 CFR 261.33 but exhibit one or more of the characteristics of hazardous waste (50 FR 14216, 14219; April 11, 1985). CCPs include all types of unused chemical products, including products that would not commonly be considered chemicals (e.g., circuit boards, batteries, and other types of equipment). EPA RO 11584: https://rcrapublic.epa.gov/files/11584.pdf and EPA RO 14012:

  In this case, the unused object is not considered a battery, but rather an off-specification commercial product which, when reclaimed is not a RCRA solid waste. EPA RO Document 11917 uses an example that lead plates from an unused lead acid battery are considered off-specification commercial chemical products when reclaimed. Even though this example is not specific to the subject question, the concept still applies.

- In order to utilize this conditional exclusion from full hazardous waste regulation, the end disposition of the material must be reclamation and not disposal. The following conditions must also be met.
  - See footnote "[4] Legitimately Reclaimed" for additional information on legitimate reclamation.
  - As long as the unused batteries are legitimately reclaimed, and conditions described below are met, unused batteries can go to any site that legitimately reclaims the batteries -- the site receiving the off-site unused batteries does not need to be a RCRA permitted TSD/Recycler or a site that meets transfer based exclusion conditions.

- Different/additional requirements may apply if this activity occurs outside of North Carolina. Check with the generating/receiving state and any state that the batteries travel through to confirm requirements that apply to the unused batteries being reclaimed.
- DOT requirements for transporting hazardous materials may apply, however a hazardous waste manifest is not required for transportation in North Carolina. (Check other state(s) requirements if the unused batteries are transported to another or through another state for reclamation).
- Any claims that materials are not RCRA solid wastes or are conditionally exempt from regulation, must be documented by the facility (40 CFR 261.2(f), adopted by reference at 15A NCAC 13A .0106(a)):
    - Respondents who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulations, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as a contract showing that the commercial chemical product is recycled) to demonstrate that the material meets the criteria to not be considered a solid waste. In addition, the owner or operator of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.
- The three legitimacy factors of 40 CFR 260.43(a) must be met and 40 CFR 260.43(b) must be considered for any material being recycled (reclamation is a form of recycling). Otherwise, the material is considered a solid waste (which may be a hazardous waste – and subject to full regulation as a hazardous waste). An example form to help meet the documentation requirement of 40 CFR 261.2(f) and review the legitimacy criteria of 40 CFR 260.43 can be found at this link: https://files.nc.gov/ncdeq/Waste+Management/DWM/HW/Guidance+Document+table+documents/Template%20for%20Documenting%20Legitimacy%20Factors%20for%20HSM.pdf

- A different management option may be the scrap metal exemption. To utilize this exemption, the unused material (that does not meet the definition of a battery) must meet the definition of a scrap metal and must be recycled (not disposed). The Scrap Metal Guidance document provides additional information on this exemption.

- Alternatively, a waste determination in accordance with 40 CFR 262.11, adopted by reference at 15A NCAC 13A .0107(a), could be performed to determine whether the off-specification commercial product is non-hazardous. If it is determined to be non-hazardous, hazardous waste requirements would not apply when it is recycled or disposed.
    - See the response to the question: "Are batteries a hazardous waste?" for more information.
    - The Analytical Methods for Characteristic Hazardous Waste Determination guidance document provides a summary of the analytical methods specified in the hazardous waste regulations when making a characteristic hazardous waste determination.

Who do I contact if I have questions?

Contact the Hazardous Waste Section Inspector who covers the region where your site is located (contact information and region provided on the map at this link):
https://www.deq.nc.gov/compliance-map-inspector/download?attachment?attachment