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**MONOCHROME TONER CARTRIDGES:  
MODEL EPP SPECIFICATIONS AND PURCHASING GUIDELINES**

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***I. INTRODUCTION***

This document provides purchasers with model specifications and purchasing guidelines for the environmentally preferable purchasing (EPP) of Monochrome Toner Cartridges. The information in this document is intended to be used in part or in its entirety in vendor bid requests and/or vendor contracts.

Note: The term vendor will be used throughout the document to refer to bidders and contractors.

NERC relied on the assistance of a team of expert procurement officials, recycling specialists, and EPP experts, in the development of this document, rather than using a scientific approach. The Toner Cartridge Expert Team included: Shirli Axelrod, Seattle Public Utilities (WA); Brian Berini, Vermont Buildings and General Services; Alicia Culver, Responsible Purchasing Network; Jason Edens, City of Seattle (WA); Susan Kinsella, Responsible Purchasing Network and Conservatree; Robert Matesic, Rochester Institute of Technology, Imaging Testing Laboratories; and Beth Meer, Commissioner's Policy Office, New York State Department of Environmental Conservation.

The following EPP specifications and purchasing guidelines focus only on monochrome toner cartridges, since these cartridges are commonly ranked as the highest expenditure and quantities purchased by government agencies.

Model EPP specifications for copy and multipurpose paper and office supplies are available at:

- [Model EPP Specifications and Purchasing Guidelines - Copy and Multipurpose Paper](#)
- [Model EPP Specifications and Purchasing Guidelines - Office Supplies](#)

***II. MONOCHROME TONER CARTRIDGE EPP SPECIFICATIONS***

**A. Monochrome Toner Cartridge Priority List** - The following list is intended to enable purchasers to obtain the best quality EPP monochrome toner cartridges available in the marketplace. Vendors that meet the highest priorities within the list will be awarded greater points or achieve greater recognition in the vendor selection process.

Priorities in order of preference for toner cartridge purchases are:

- **Priority 1** - Remanufactured High-yield Cartridges
- **Priority 2** - High-yield Original Equipment Manufacturer (OEM) Cartridges
- **Priority 3** - Remanufactured Standard Cartridges

Note: Compatible toner cartridges are not included in these specifications. See the definitions at the end of this document for more information about compatible cartridges.

### **III. PURCHASING GUIDELINES**

#### **A. SUGGESTIONS FOR PURCHASING ENTITY**

It is suggested that prior to creating vendor bid documents the purchasing entity should:

1. Inventory all imaging equipment and record toner cartridge needs, and
2. Determine the type of toner cartridges (for what type of machine and model number) that have the highest volume of usage.

#### **B. RECOMMENDED PRODUCT QUALITY REQUIREMENTS – Vendors are required to:**

1. Provide remanufactured cartridges that meet or exceed OEM cartridge standards for quality and performance and meet approved remanufactured toner cartridge industry standards. Toner cartridges furnished to this specification shall meet or exceed the latest ASTM remanufactured toner cartridge standards, or the guidelines of [UL/EcoLogo](#), [Blue Angel](#), [Nordic Swan](#), or equivalent Eco label, or the results of third party performance testing by the [Rochester Institute of Technology Imaging Products Laboratory \(RIT\)](#), [Buyers Lab](#), or equivalent independent laboratory.
2. Provide a separate declaration of standards or guidelines being used, as described in III.B.1, for the highest quantity purchased toner cartridges, including SKU numbers.
3. Provide remanufactured toner cartridges that are not manufactured or remanufactured with and/or contain intentionally added mercury, lead, cadmium or chromium (VI) as constituents of the toner or toner cartridge. The vendor shall also provide documentation, with each shipment, that attests to compliance with this requirement.
4. Provide remanufactured toner cartridges that are not manufactured or remanufactured with and/or contain any hazardous substances in concentration that causes the toner being classified with the following risk phases according to [Annex I of the European Union Directive 67/548/EEC](#):
  - a. Very toxic by inhalation (R 26)
  - b. Very toxic in contact with skin (R 27)
  - c. Limited evidence of a carcinogenic effect (R 40)
  - d. May cause sensitization by inhalation (R 42)
  - e. May cause cancer (R 45)
  - f. May cause heritable genetic damage (R 46)
  - g. Danger of serious damage to health by prolonged exposure (R 48)
  - h. May cause cancer by inhalation (R 49)
  - i. May impair fertility (R 60)
  - j. May cause harm to the unborn child (R 61)
  - k. Risk of impaired fertility (R 62)
  - l. Possible risk of harm to the unborn child (R 63)
  - m. May cause harm to breastfed babies (R 64)
  - n. Possible risk of irreversible effects (R 68)
5. Provide remanufactured toner cartridges that are not manufactured or remanufactured with azo-colorants (dyes or pigments) that may contain carcinogenic aromatic amines, as defined in [UL 2785 Standard for Sustainability for Printing Cartridges](#).

6. Document that the highest quantity purchased remanufactured toner cartridges have been tested for performance and in accordance with the above standards and guidelines and that the cartridges have met or exceeded those tests with each shipment.

**C. RECOMMENDED VENDOR REQUIREMENTS** – Vendors (i.e., retailers, distributors and remanufacturers) are required to:

**1. Vendor Proposal Requirements**

- a. Propose to only provide OEM or remanufactured toner cartridges for which the manufacturer, wholesaler, distributor, retailer, or remanufacturer does not place restrictions on the recycling or remanufacturing of the cartridge.
- b. Propose only toner cartridges that adhere to the priority list in Section II. A. for all imaging equipment to be provided to the purchasing entity. The bidder is responsible for informing the purchaser of the available products and indicating level of the priority list the product falls.
- c. Provide page counts for all OEM and remanufactured cartridges in its proposal.

**2. Cartridge Packaging & Labeling Requirements**

- a. If using the original shipping container to return spent cartridges:
  - Construct the container to permit use for returns.
  - Include a label, on at least one of the long sides that says:  
“IMPORTANT: SAVE THIS BOX AND ALL INTERNAL PACKAGING FOR RETURN OF THE EMPTY CARTRIDGE.”
- b. Minimize shipping packaging used (“right-size” order packaging).
- c. Negotiate additional ways to minimize packaging materials and generate less waste with the purchasing entity.

**3. Use Recycled Content and Readily Recyclable Packaging Material**

- a. If using corrugated packaging, provide written documentation from the carton manufacturer/supplier that verifies a 50% minimum percentage of post-consumer recycled content.
- b. Use shipping and packaging materials that can readily recycled in the purchasing entity’s community recycling program and that comply with [model toxics in packaging laws](#). (Contact the State’s Environmental Agency to find out the products that are readily recyclable in residential programs.)

**4. Cartridge Take-back Collection**

- a. Provide a viable method for collection of spent cartridges for recycling or remanufacturing that does not create any waste or expense for the customer (e.g., provide pre-paid shipping/ mailing label to be used on original box in which cartridges were received, a collection container for pick up, etc.). The practices for take back will be reviewed and determined with the purchasing entity.
- b. Recycle or remanufacture end-of-life cartridges and provide the buyer with the following details of its recycling/remanufacturing program in its annual report to the customer:

- The number of used toner/ink cartridges received from the customer, including the type of toner cartridge (OEM or remanufactured), the OEM's name, and the name of the department completing the return.
  - The disposition of the returns, including the disposition of the remaining toner in used cartridges (e.g., remanufactured, sent to remanufacturer, recycled, etc.).
- c. Ensure that remaining toner in used cartridges is recycled or disposed of in a manner that complies with all environmental and human health and safety laws.
- d. At the customer's request, provide manifests and any other documentation needed to confirm the proper management or disposal of material.
- 5. Safety Data Sheets & Training**
- a. Provide a link to the current Safety Data Sheet (SDS) for each product provided to the customer.
- b. Provide training for the end-users on installation and maintenance of the cartridge to optimize the performance and life of the cartridge, upon request of the customer.
- 6. Warranty**
- a. Warrant no more than a 2% failure rate of toner cartridges supplied, over a time period based on consumption rate or another time period agreed to by the purchasing entity.
- b. Provide 100% replacement warranty for all cartridges supplied for a minimum of one (1) year from the date of purchase. This warranty shall be provided with each cartridge and shall cover defects in the cartridge, material used in the cartridge, workmanship and damage during shipment.
- c. If problems occur with imaging equipment due to a vendor's defective remanufactured toner cartridge: 1) Provide a competent factory-trained authorized service technician to repair the imaging equipment machine within one (1) business day, or 2) Reimburse the customer for any imaging equipment repair service performed due to the vendor's defective cartridge. If the imaging equipment cannot be repaired or restored to its previous condition, vendor shall pay for an equivalent replacement of the device at no cost to the customer.
- 7. EPP Products Clearly Identified, Defined, and Found in All Vendor Catalogs** – The vendor shall:
- a. Identify EPP items in their product catalogs along with prominent information about how the vendor defines EPP (e.g., if the vendor uses a symbol/icon to identify a "greener" product, provide information about what the symbol/icon represents).
- b. Ensure that any EPP symbols/icons are displayed along with EPP attribute details per product (e.g., a product with a recycled content symbol would also have in its product description details about the % total RC and % PCRC).
- c. Make EPP items easily found within online product catalogs through effective search tools, search filters, and related navigational tools.

**8. Optional Data Requirement** – The vendor shall:

- a. Provide EPP data by department, delivery location, or other demographic that is most applicable to the purchasing entity.

**9. Consolidate Deliveries** – The vendor shall:

- a. Set up a plan with the purchasing entity whereby all toner cartridge purchases will be delivered on a certain day of the week or will identify another consolidation method.
- b. Document or illustrate how their delivery consolidation methods reduce the purchasing entity and the vendor’s carbon footprint (e.g., reduction in fossil fuel use, carbon emissions, packaging materials, and on-site vehicle traffic).

**10. Use EPA Smartway Participants** – The vendor shall:

- a. Only use delivery service companies that are participants in [EPA’s Smartway Program](#).

**11. No Idling of Delivery Trucks** – The vendor shall:

- a. Require all delivery drivers to turn off their engines upon stopping at the delivery location, or not allow an engine to idle at any location for more than 20 seconds, except in the following situations:
  - The health and safety of employees, sub-contractors or the public is compromised by turning off the vehicle.
  - The engine is required to power auxiliary equipment (e.g. hoist, lift platforms, hydraulic tools, inverters, compactors, medical equipment, specialized public safety radio communication and computer systems, etc.). Or,
  - Vehicle/equipment manufacturer requires additional idle time for warm up or cool down for efficient and proper mechanical or functional operation of the unit.

**D. PREFERRED PRODUCT QUALITY REQUIREMENTS**

**1. Emission Rates** - Preference will be given to vendors that:

- a. Provide documentation that confirms that the emissions testing results for each type of cartridge purchased meets the specified requirements for release of total volatile organic compounds (TVOC), benzene, styrene, and dust as defined in [RAL-UZ55](#) for monochrome print cartridges and determined in accordance with The BlueAngel’s Basic Criteria for Award of the Environmental Label – Office Equipment with Printing Function (Printers, Copiers, Multi-function Devices – [RAL – UZ171](#)). See Table 1 for the allowable emission rate values for each substance.

<b>Table 1: Permissible Test Values for Emission Rates as Determined According to Appendix S-M for Electrophotographic Devices – <a href="#">RAL UZ 171</a></b>		
<b>(All Values in mg/h, Except for Particle Emissions)</b>		<b>Monochrome Printing</b>
Pre-operating Phase	TVOC*	1 (Desktop Devices) 2 (Floor-mounted Devices, Device Volume >250 l)
Print Phase (= Pre-operating + Print Phase)	TVOC*	10
	Benzene	<0.05
	Styrene	1.0
	Unidentified Single Substances VOC	0.9
	Ozone	1.5
Print Phase	Dust	4.0
Print Phase	PER10 PW [Particles/10 min]	3.5 * 10 <sup>11</sup>

\*Please see the list of volatile organic compounds which must be considered when measuring emissions from office equipment with printing function (see Appendix S-M, para. 4.5 VOCs).

**E. BIDDER & VENDOR REQUIREMENTS ON REMANUFACTURERS**

**1. Quality Requirements for Remanufacturers – Vendors shall:**

- a. Offer remanufactured products from product remanufacturers certified by the standards specified by [STMC](#), [ISO 9001 for Quality Management Systems](#), or [ISO 14001 for Environmental Management Systems](#). Bidders shall inform purchasing entity of these certifications.
- b. If the remanufacturer is certified under the [ASTM Guidelines](#), the vendor shall provide ASTM documentation on the number of the remanufacturer’s personnel who have successfully completed the training for the Guidelines and demonstrate that they are still current with their qualification. This includes the standardized testing certification for ASTM F 1856-98, ASTM F 2036, and ISTA 1A VERSION-99.
- c. Provide documentation on the remanufacturers facility(ies), skilled personnel, and equipment and parts available to service, maintain, overhaul and repair all brands of imaging equipment that are associated with the models of cartridges listed in the solicitation.

**2. Cartridge Testing – The vendor shall:**

- a. Provide documentation on remanufacturer’s verification of testing on all toner cartridges after remanufacturing by installing the cartridge in an applicable device and running and inspecting test copies. A test copy for each toner cartridge purchased will be provided with each purchase shipment, printed on 100% recycled content paper with a minimum of 50% post-consumer recycled content, and printed double-sided.

**3. Cartridge Remanufacturing Process – The vendor shall:**

- a. Provide documentation that the exterior cartridge surfaces have been thoroughly cleaned by the remanufacturer, with all traces of old labels entirely removed.

#### **IV. DEFINITIONS**

- A. ASTM** – American Society for Testing Materials.
- B. Compatible Toner Cartridges (also referred to as Clones)** – New cartridge built using 100% new parts, not produced by the OEM but by a 3rd third party, and sold under a 3rd third party brand name (Also known as: Clone or new build.)
- C. Compatible with** – Remanufacturers may refer to their toner cartridges as “compatible with” certain OEM imaging devices. This is different than compatible toner cartridges.
- D. High-yield Cartridge** – Cartridge filled to obtain maximum number of copies of printed material.
- E. International Safe Transit Association (ISTA)** - Testing and standard setting organization for packaging used for shipping goods.
- F. OEM** - Original equipment manufacturer.
- G. OEM Cartridge** – New cartridge produced by the OEM and sold under the brand name.
- H. Remanufacturer** – Company that disassembles previously used toner cartridges into components, assembles the reusable parts into functioning printing cartridges, and introduces new or aftermarket parts or components only where expressly required (i.e., new toner).
- I. Remanufactured Cartridge** – Used OEM cartridge which has been disassembled, cleaned, and any worn, damaged or end of life components replaced.
- J. Standard Cartridge** – Cartridge that is partially full with ink or toner.
- K. Standardized Test Methods Committee (STMC)** – Global committee, created by the International Imaging Technology Council, to promote standardized test methods for the printer cartridge industry. The STMC certification for remanufactured toner cartridge vendors signifies that the vendor’s employees are trained in and use STMC test methods.
- L. UL/EcoLogo CCD-039** - Standard for remanufactured cartridges with specifications for the remanufacturing process, cartridge quality, and end-of-life management.