RESPONSIBLE PURCHASING **GUIDE**

toner cartridges

RPN
Responsible Purchasing Network
Center for a New American Dream

about this guide

The Responsible Purchasing Guide for Toner Cartridges is published by the Responsible Purchasing Network in print, as a PDF file, and on the web. Print and PDF copies are available to the public for purchase. The online edition includes additional resources available to members of the Responsible Purchasing Network, including: searchable product listings, multiple policy and specification samples, comparisons of standards, and related documents. Visit www.ResponsiblePurchasing.org to purchase a copy or to access the members-only web-based edition of the Guide.

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about the Responsible Purchasing Network

The Responsible Purchasing Network (RPN) was founded in 2005 as the first national network of procurement-related professionals dedicated to socially and environmentally responsible purchasing. RPN is a program of the Center for a New American Dream (www.newdream.org) and guided by a volunteer Steering Committee of leading procurement stakeholders from government, industry, educational institutions, standards setting organizations, and non-profit advocacy organizations.

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Remanufactured toner and ink jet cartridges (remans) reduce waste, save natural resources, and cut costs by reusing empty cores and parts rather than disposing single-use products from original equipment manufacturers (OEMs).

Remanufactured cartridges are available for laser monochrome and color as well as ink jets. Monochrome laser remans are the most applicable for widespread adoption by institutional purchasers and are the focus of this Guide.

Each year, over 350 million toner cartridges go to landfills and incinerators in the United States. A typical OEM toner cartridge consumes 5 to 9 pounds of virgin material in the production process and is composed of 40% plastic, 40% metal and 20% rubber, foam and paper. Remans reuse the plastic and metal and save other materials and energy needed to produce a comparable OEM. Cartridge remanufacturers in the United States reuse over 35 thousand tons of plastic and save over 400,000 barrels of oil each year. Since cartridges may be remanufactured more than once, resource intensity is reduced further with each additional remanufacture by extending the total life of the unit.

The cost of remans is conservatively estimated to be 30% to 60% less than new cartridges on a cost-per-copy basis. Remans are suitable for use in most printers, copiers and other machines using laser cartridges. Reman products offer equivalent quality, performance, and yield compared to OEM standards. During remanufacture, cartridges are disassembled and cleaned. Worn, defective, and high-usage parts are replaced. Units are refilled with toner, reassembled, tested for quality, and resold. Purchasers should specify the STMC testing protocol in order to guarantee product quality and performance.

There are an estimated 2,000 cartridge remanufacturers in the United States who produce over 27 million remans each year. Remans are available from most national office supply vendors as well as local vendors throughout the country. One simple way of switching is for purchasers to ask suppliers to auto-substitute remans when orders is placed for new cartridges. In addition to using remans, cartridges should be recycled at the end of their useful life. Sourcing from local remanufacturers and recyclers may provide additional environmental benefits and contribute to the local economy.

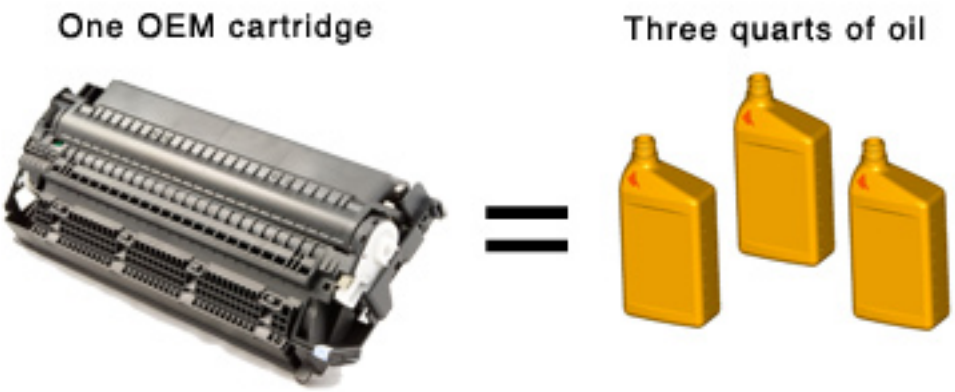
Compared to OEM cartridges, remanufactured toner cartridges reduce energy and resource intensity and limit waste, while offering immediate cost savings, comparable quality, and ready availability—a straightforward case of win-win for the environment and the bottom line.

SOCIAL & ENVIRONMENTAL ISSUES

The remanufacturing process is energy efficient, saves money, and conserves natural resources while providing high quality products at a competitive price.

ENERGY

Producing a new OEM cartridge burns approximately three quarts of oil, which can be saved by using remans (StopWaste, undated). Over 350 million toner cartridges are disposed of each year in the United States (Business Wire, 2008). Up to 6 million barrels of oil could be saved each year if these were remanufactured (RPN, 2008).



HAZARDOUS SUBSTANCES

Toner cartridges contain substances which can harm human health:

- Volatile Organic Compounds (VOCs). Petroleum-based materials in toners can release VOCs during the printing process (CA, undated).
- Toner Dust. Respiratory tract irritation can occur with inhalation of toner dust. Use of toner cartridge products as intended helps minimize release of dust.
- Carbon Black. Carbon black is a carcinogen (CDC, undated) used in many toner cartridges, but its use in toner is not known to present risks.

NATURAL RESOURCES

OEM cartridge manufacturing uses 5 to 9 pounds of virgin material to produce a typical toner cartridge weighing 3 pounds, which is composed of approximately:

- 40% Plastic
- 40% Metal
- 20% Rubber, foam, and paper (StopWaste, undated)

Cartridge remanufacturers in the United States reuse over 35 thousand tons of plastic and save over 400,000 barrels of oil each year (Sandoval, 2004; ClickPress, 2006).

END-OF-LIFE MANAGEMENT

Cartridges can typically be remanufactured up to three times before disposal. When remanufacturing is not viable, cartridges should be recycled, as over 95% of the component weight is recyclable (StopWaste, undated). Recycling requirements should be written into cartridge contracts. Recyclers separate cartridges into core components that are used as raw materials in new products (Sandoval, 2004). Most cartridge manufacturers accept and recycle waste cartridges (CA, undated).

Despite the ease of recycling, 350 million cartridges – nearly half of the total used in the United States – were sent to landfills or incinerators in 2005 (Office Depot, undated). This volume is increasing by 12 percent annually (Business Wire, 2008). These cartridges contain engineering-grade polymers that can take over 1,000 years to decompose (CA, undated).

SOCIAL RESPONSIBILITY

Buying remans can benefit local economies (CA, undated) by supporting an estimated 2,000 cartridge remanufacturers in the United States, the majority of which are small businesses distributing their products locally (Sandoval, 2004). As e-waste legislation becomes more common, remanufacturing companies will also need to be proactive participants in finding reuse or recycling solutions for their end-of-life products and component parts.

Best practices ensure that remanufactured toner cartridges (remans) are properly purchased, handled, and collected for reuse and/or recycling.

IDENTIFY A 'GREEN' CHAMPION

Most "green" purchasing programs start with a single torch-bearer. Chances are you – yes, you – are that person within your organization. If you are just beginning the process, start by learning as much as you can about the topic (by, for example, reading this Guide). Then build support among a few key allies – these can be anyone. Once you have a small group of supporters, you are on the way to launching a successful program.

FORM A TEAM

A core team of stakeholders should administer a reman program from concept to contract. This team can begin informally but could and should evolve into a more official body as formal policy is adopted. Ideally, the 'Reman Team' should consist of staff representing a cross section of responsibilities, including: purchasing, facilities, environment and sustainability, information technology, administration, imaging equipment maintenance, and senior management. The team can be a stand-alone action team or a subcommittee of a larger green purchasing or sustainability team. The Reman Team should work together to:

- Compile an inventory of printers/copiers in use;
- Match printers with available remans;
- Collect OEM and reman pricing information;
- Recommend purchasing lists for OEMs and remans;
- Establish empty cartridge procedures;
- Establish either surplus sales procedures for empty cartridges or vendor recycling procedures.

ESTABLISH BASELINE

The first job of the Reman Team is to collect information on toner cartridges used in company equipment. This information, which can be obtained from purchasing records or by inspecting each printer and copier, provides a quantitative basis for tracking costs and performance of remans.

Include the following key data points:

1. Brand, type, model, and location of all machines that use toner cartridges;
2. Brand, type, and model of toner cartridges;
3. Purchase price of cartridges in use;
4. Current cartridge vendor(s);
5. Contracted company for remanufacturing and/or recycling of cartridges; and
6. Cost of cartridge disposal.

This information will allow the Reman Team to:

- Identify remans that can replace OEM cartridges in use;
- Estimate cost savings and track performance of remans; and
- Ensure that all used cartridges are either sent to a remanufacturer or a recycler.

SET GOALS

After reviewing the baseline data, the Reman Team can establish goals for replacing OEM cartridges with remans and ensuring proper remanufacturing or recycling of used cartridges. Goals can include:

1. Print volume. Encourage offices to reduce total print volume and associated toner consumption.
2. Maintenance. Set targets for equipment cleaning and maintenance that can improve print quality and extend equipment life.
3. Percentage of cartridges that are remans. Set targets for reman use whenever available for a particular machine and/or application. Select remans as the default cartridge on company purchasing contracts/ordering systems.
4. Quality performance. Ensure quality by purchasing remans from reputable suppliers that meet or exceed industry standards, have a track record in the remanufacturing business, and can provide customer references. Test sample remans in company equipment before signing a contract. Require manufacturers to provide warrantees for their remans.
5. New machines and OEM cartridges. Purchase printers and copiers that are compatible with remans and OEM cartridges that can be remanufactured. Include language in equipment contracts prohibiting OEM warranties from being voided by use of remans.
6. Cost savings. Set targets for costs saved as a result of substituting OEMs with remans.
7. Contract structure. Set targets for cost and performance of reman contracts. A services contract, for instance, can help achieve overall cost savings by bundling remans with services such as machine maintenance and cleaning.
8. End-of-life management. Require used cartridges to be remanufactured and

when remanufacturing is not possible, that cartridges are sent to recyclers. Most vendors have take-back programs for used cartridges that ensure proper reuse and recycling. Cartridges should never be sent to landfill or incinerators.

ADOPT POLICY

Goals should be reflected in an official green purchasing policy or in a stand-alone toner cartridge policy. Components of a good policy include:

- Executive endorsement. The most effective policies are issued by an executive, such as a Mayor or CEO, or a governing body like a city council, legislature, or board of directors. Executive management should be fully informed on the benefits of remans and be willing to champion policy implementation. Assign responsibility for implementation. Establish a Reman Team that will be responsible for implementing and reporting on reman goals (see Form a Team above).
- A timeline for achieving goals. Require that remans replace OEM cartridges wherever possible within a clear timeframe (e.g., within 1 year after the policy is enacted).
- A reporting structure. Require annual reports to an executive body, such as a Mayor or CEO's office, or a city council. Reman reports can be included in reports on other green purchasing activities or in a specific report on cartridges.
- Training and outreach. Require employee training, as needed, on reman practices and protocols and conduct educational outreach to other internal and external stakeholders.

IMPROVE PRACTICES

In addition to using remans, there are other ways to minimize environmental impacts associated with toner cartridges:

- Reduce printing. Find ways to print less by switching to electronic forms of document preparation and distribution.
- Clean and maintain equipment. Keep equipment in prime operating condition to ensure print quality and extend machine life. Follow cleaning instructions in owner manuals.
- Troubleshoot. If a reman is suspected of causing a printing problem, replace it with another reman or OEM cartridge. Then test the printer to see if the problem is resolved.
- Cartridge handling. Do not remove cartridges from their sealed packages until they are needed. Once opened, use the cartridge within six months. Do not expose cartridges to significant light, heat, cold, or humidity. Never touch the drum surface of the cartridge (StopWaste, undated).

- Consolidate equipment. Identify and eliminate redundant and unnecessary equipment to reduce equipment and reman procurement costs.
- Seek equipment uniformity. Reduce the variety of cartridges required by shifting to machines that accept remans and have uniform toner cartridge requirements.
- Engage purchasing agents. Provide information to purchasers regarding reman contracts, standards, and purchasing requirements.
- Train employees. Train employees on proper handling, use, and end-of-life management of toner cartridges.

EVALUATE STANDARDS AND SPECIFICATIONS

Evaluate existing reman standards and specifications used by other institutions. There are two main standards for remans (see the Standards section of this Guide for a detailed description):

1. Standardized Test Methods Committee (STMC) – This certification is for reman vendors. It is managed by the International Imaging Technologies Council (IITC) and requires ASTM testing methods.
2. EcoLogo^{CM} CCD-039 - This standard for reman cartridges addresses the manufacturing process, quality reman cartridge and end-of-life management.

In addition to writing these standards into bid and contract specifications (see the Specifications section of this Guide for sample specs), require that vendors:

- State how long they have been in business
- Provide client references
- Describe their remanufacturing process
- Prove that their cartridges have been tested to meet or exceed industry standards
- Provide page coverage and cost per copy estimates
- Specify product warranty details (e.g., duration, whether reman-related equipment damage is covered)
- Guarantee equipment repairs if a problem is caused by their product
- Guarantee that if the reman defect rate exceeds a stated threshold within a specified period (e.g., a 3% failure rate within six months) the cartridges can be returned for a full refund
- Guarantee they will take used cartridges back for further remanufacturing or recycling and what the terms are on the return
- Do not legally restrict the remanufacturing and/or recycling of cartridges by parties other than the OEM manufacturer

PURCHASE REMANS AND SERVICES

Purchasing contracts should specify reman models so purchasers can easily identify

them. Contracts should be awarded based on a cost-per-cartridge or a cost-per-copy basis. Cost-per-cartridge and cost-per-copy estimates can be included in bid requests.

Achieve further cost savings by bundling remans into equipment services contracts (INFORM, undated). For instance, many reputable remanufacturers offer discounted printer cleaning and repair services on reman contracts. If using a remanufacturing company for printer or copier service, require that they are certified by the specific equipment manufacturer to provide warranty and repair work.

MEASURE & REPORT PROGRESS

Hold periodic Reman Team meetings to review status and progress. Review purchasing records to make sure that staff is buying remans from qualified vendors. Compare and report on the purchase price and performance of remans relative to baseline data gathered on OEM cartridges prior to their substitution with remans. Identify and address any obstacles that may be limiting the program's success and adjust goals and practices accordingly. Recognize stakeholders and champions responsible for achieving success and publicize these successes to internal staff and the external stakeholder community.

Remans are less expensive than OEM cartridges and can perform just as well. They are widely available for monochrome laser machines and can be found for other cartridge types too.

COST

Over $25 billion is spent worldwide on ink and toner cartridges annually (Sandoval, 2004). Remans cost 30-60% less than OEM cartridges on a cost-per-copy basis (INFORM, undated). Additionally, remans often contain up to 20% more toner than OEMs, which extends their useful life (CA, undated).

Examples of reman savings:

- King County, Washington purchased 7,250 remanufactured cartridges in 2005, saving $300,000 compared to the cost of OEM cartridges (King County, undated).
- The City of Toronto reduced costs by 60% per cartridge by switching to remans (City of Toronto, 2006).

OEM Warranties

Excerpt from Reman FAQ produced by Dmitriy Nikolayev of the Commonwealth of Massachusetts

The Magnuson-Moss Warranty Act of 1975 prohibits an OEM from, as a condition of the warranty, requiring the use of their cartridge.

While using another brand of cartridge does not void a warranty, the OEM does not have to repair damage caused by another brand of cartridge. However, the remainder of the warranty still applies.

Only damage that is directly caused by another brand of cartridge is exempted from the OEM warranty. Under these circumstances, the cartridge remanufacturer should repair the damage.

QUALITY

The remanufactured cartridges industry started with the "drill and fill" method of reprocessing spent toner cartridges. The method was inexpensive but some manufacturers and suppliers offered substandard products with little or no production controls in place. As a result, many consumers experienced poor quality and performance from the "refilled" cartridges (CA, undated).

The current remanufacturing process requires cartridges to be disassembled, inspected, and cleaned. Worn components are replaced with new parts and a fresh supply of toner is added before the cartridge is resealed and resold. Remans from

STME compliant suppliers are as reliable and offer the same quality standards as OEM cartridges (StopWaste, undated). They do not damage equipment and cannot be the basis for voiding manufacturer equipment warranties (see Box 1).

A May 2006 report from City of Toronto reported isolated problems with reman print quality, which their vendors quickly addressed per contract conditions. Follow-up tests in a controlled setting found no difference between OEM and remans in the Toronto contract and an independent consultant report recommended that the City continue requiring use of remans whenever possible (City of Toronto, 2006).

SUPPLY

There are an estimated 2,000 cartridge remanufacturers in the United States, producing over 27 million remans annually (Sandoval, 2004). Demand for remanufactured toner cartridges is increasing and many more models and types of remans are becoming available. There are several different types of cartridges on the market today and they differ in the extent to which they can be remanufactured (Nikolayev, 2008).

- Monochrome laser toner cartridges. Monochrome (black) laser toner cartridges, the focus of the Guide, are the products with the longest history of being remanufactured. The industry has developed sophisticated remanufacturing techniques and quality control tests and certifications for suppliers.
- Monochrome ink jet cartridges. Ink jets represent a much smaller share of the institutional purchaser market than monochrome laser. Although this Guide focuses on monochrome laser cartridges, many of the best practices and policies discussed are also applicable to ink jets.
- Color laser and ink jet cartridges. Color cartridges are newer to the remanufacturing industry and are technically complex since their print quality depends on the interaction of multiple toners/inks. Reliable remanufactured products are available and some quality tests have been developed. Nevertheless, quality testing certification for suppliers is still under development and some tests have found color remans to have a greater failure rate than color OEM cartridges (Quality Logic, 2005). Additionally, remanufactured color cartridges have limited availability – sold by a handful of suppliers and not available nationwide.
- Toner containers for component-based systems (e.g. photocopiers). The value of these products is very low once they are used, so they are rarely remanufactured.
- Specialized equipment. Remanufactured toner and ink cartridges are not available for some specialized equipment that use cartridges with newly patented components (including computer chips) and design features that impede remanufacturing.

Policies typically require that remans be purchased whenever possible, that cartridges are remanufactured or recycled at end of life, and that all equipment purchased can use remans.

Ideally, policies also require vendors to be STMC certified and/or cartridges to be EcoLogo[CM] certified (see the Standards section of this Guide for more details).

MODEL POLICY

StopWaste.Org, EPP Model Policy, 2006 (See Addendum I)

Section 3.1 of this model EPP policy contains provisions for reducing consumption and waste associated with printing, purchasing remanufactured toner cartridges, considering life-cycle costs when awarding contracts, reducing packaging and using recyclable packaging, and requiring vendors to take back and reuse or recycle used cartridges.

MORE SAMPLE POLICIES

FEDERAL

White House, Executive Order 13101, 1998

This executive order created the Federal Environmental Executive office. This office is responsible for waste reduction, recycling, environmentally preferable purchasing, and coordinating government-wide education and training. Part 6 of the order requires that used toner cartridges are remanufactured or recycled and that the Federal government increases the use of remanufactured products.

STATE

California, Public Contract Code section 12156, undated

This policy includes commitments to reducing solid waste, promoting reuse and recycling, and supporting business development in California. State agencies are instructed to purchase recycled and remanufactured products, including remans.

Wisconsin, State Bill 485, 2001

This legislation requires purchasers to use contract specifications that prohibit procurement of equipment from manufacturers who place restrictions on remanufacturing of OEM cartridges in their machines by anyone other than the original manufacturer. Banned practices include offering price discounts in exchange for the acceptance of remanufacturing restrictions or a license/contract

provision that limits remanufacturing.

COUNTY

Los Angeles County, Purchase of Environmentally Preferable Products, 2007
This county-wide policy requires county offices to practice environmentally preferable purchasing (EPP) and specifically mentions packaging and waste reduction, low life-cycle impacts, and the purchase of remanufactured products such as toner cartridges.

CITY

Berkeley, CA, Environmentally Preferable Purchasing Policy, 2004
This overarching EPP policy includes provisions for waste reduction, recycled content products, and energy and resource conservation. Purchasers are required, whenever possible, to purchase remanufactured products with minimal packaging. Contracting decisions are to factor in life-cycle cost considerations.

San Leandro, CA, Environmentally Preferable Purchasing Policy, 2005
Purchasers are required to purchase remanufactured products, such as toner cartridges, whenever possible and to reduce packaging and waste. Both short-term and long-term costs must be considered when making contracting decisions. Copiers and printers purchased by the City must be compatible with recycled and remanufactured products. Preferance is given to local vendors.

EDUCATIONAL INSTITUTION

Duke University, Environmentally Preferable Purchasing Guidelines, 2007
Duke University's EPP Policy requires purchase of remanufactured laser toner cartridges whenever possible (see section E.1).

University of Florida, Sustainable Purchasing Directive, 2007
This policy requires faculty, staff, and students to reduce, reuse, and recycle prioritizing reducing upstream waste. University purchasers are required to use life-cycle cost analysis for contracting decisions and to lease and rent equipment when appropriate. Purchasers should buy remanufactured cartridges when possible and preference should be given to vendors that accept used toner cartridges.

Establishing a reman policy demonstrates a commitment to buying remans, but environmental attributes can be incorporated into procurement specifications with or without a formal policy. Among other detailed requirements covered below, the specifications should require that vendors are STMC certified and/or that reman cartridges are EcoLogo certified.

MODEL SPECIFICATION

Texas Department of Transportation (TxDOT), Remanufactured and OEM Compatible Toner Cartridges, October 2005 (See Addendum II)

This comprehensive specification requires vendors to meet or exceed STMC and ASTM standards for remans. Warranties must cover cartridges for at least one year and defective cartridges must be replaced. Equipment damage caused by the defective cartridge must be repaired. Third-party tests and evaluation reports must be submitted. Packaging materials and labeling must meet specified requirements. Installation instructions must be included with the cartridge. A list of cartridges and prices included in the TxDOT cartridges contract can be viewed at http://www.txdot.gov/services/general_services/recycling/default.htm.

MORE SPECS

FEDERAL

U.S. Environmental Protection Agency, Blanket Purchase Agreement for Office Supplies, undated

This EPP contract lists purchasing, delivery, and reporting specifications and requires that all products meet EPP criteria. Paragraph 12 requires vendors to offer only remanufactured cartridges unless unavailable for a particular application.

STATE

California, Public Contract Code section 12156, undated

State agencies are prohibited from buying printers or copiers from manufacturers that restrict recycling or remanufacturing of cartridges. Signed agreements with equipment manufacturers/vendors are permitted for the return, remanufacture, and recycling of used cartridges. Agencies are required to include language to this effect in their bid documents.

California, Sample Specifications, undated
This document contains tips and sample language for writing specifications for remans. Topics covered include: 1) Vendor qualifications, 2) Quality remans, 3) Remanufacturing process, and 4) End-of-life management.

Commonwealth of Massachusetts, Toner Cartridge Specs, undated
The Massachusetts bid request requires remans that meet OEM cartridge standards and are sold with lifetime warranties. Printed test sheets must be included with cartridge deliveries to demonstrate cartridge quality. The remanufacturing process must meet detailed specifications for components, cleaning, and assembly. Specific packaging materials are required and the packages must include proper labeling and training materials. Vendors are required to provide a plan and supporting evidence for collecting and remanufacturing and/or recycling used cartridges. Massachusetts' 2003 bid spec for office imaging equipment requires that new machines are compatible with remans.

North Carolina, Reman RFP, 2007
This RFP requires delivery of new remans and pick-up of used cartridges. Warranty must guarantee shelf life of at least one year with an additional 6 month warranty after opening and installing the cartridge. Bidders are required to submit answers to questions on 1) Vendor experience, 2) Quality of remans, 3) Replacement of defective cartridges and repair of damaged equipment, 4) Components, cleaning, and assembly of remans, 5) Packaging, labeling, and operating instructions, and 6) Vendor's stock of requested reman models.

South Carolina, Request for Bids, 2003
The discussion of reman specs begins on page 11. Vendors are required to have liability insurance and must have at least one certified OEM equipment repair person on staff. Remans must meet OEM specs and the vendor is responsible for repairing any damages caused by a defective reman. Material Data Safety Sheets must be included with remans. Packaging must be labeled with the date on which the remanufacturing of the cartridge was complete and the expiration date.

Washington, Contract for Office Supplies, Toner, and Paper, 2008
This office supplies contract includes OEM and remanufactured cartridges. Cartridge shipping containers must be suitable for returning expended cartridges. Prepaid shipping labels or pick-up must be provided for expended cartridges. Remans shall not cause damage to office equipment. Vendor must clean, repair, or replace any equipment damaged by a defective cartridge. Vendor must refund the cost of a defective cartridge.

COUNTY

King County, WA, Bid and Contract Specifications, 2007

This bid document specifies vendor eligibility criteria and warranty requirements including timely and no-cost replacements and repairs. Vendors must supply samples that meet OEM quality specs and meet or exceed OEM page yields. Material Safety Data Sheets are required with remans and shipping containers must be clearly labeled with end-of-life management instructions.

Monroe County, NY, Contract Data Sheet, 2007

This contract covers remans for printers and facsimile machines. Vendors must provide references from at least three clients. A minimum warranty of one year from assembly date is required. Remans must meet or exceed OEM standards. Vendors must follow STMC testing procedures and must follow guidance on components, cleaning, and assembly. Defective remans are returned at vendor's expense and replacement cartridges are supplied at no cost. Vendor is required to analyze defective cartridges and report to county how it will be resolved.

Sedgwick County, KS, RFP for Remans, 2005

This request for proposals asks vendors to provide the following information: 1) List of all available remans, 2) Document details of reman process and quality assurance, 3) Document warranty details, 4) Document service and repair protocol, 5) Document how used products are reused or disposed of, and 6) List of at least four current client references.

CITY

San Diego, CA, Contract Language Recommendations, 2007

This document includes guidance on a range of environmentally preferable products. Vendors are required to use recycled content paper, to print double-sided, and to exclude unnecessary samples and attachments. Guidance on remans starts on page 8.

EDUCATIONAL INSTITUTION

California State University, Remanufactured Toner & Ink Cartridge Contract, 2005

This brief document details a reman contract with a local vendor, offering a 100% quality guarantee and periodically reporting to the University on contract performance. Vendor picks up empty cartridges. Product and pricing is attached.

Teacher Retirement System of Texas, Request for Offers, 2007

This RFO is for OEM and remanufactured cartridges, with remans set as the "first-choice." Remans must meet or exceed OEM quality. Vendor must meet or exceed STMC testing methods. Sample cartridges are required for testing. Remans must be warranted for at least one year after assembly. Vendor must describe their process for remanufacturing or recycling empty cartridges.

University of Connecticut, Reman & Service Contract Award, 2003
This contract is for remans and preventative maintenance/cleaning, minor printer adjustments, assistance in removing/replacing cartridges, customer service as needed, and warranty repairs. These services are only provided on machines that use remans. Remans should meet or exceed OEM quality and print yield.

BUSINESS
Pierce County Public Transportation Benefit Corporation, Remanufactured Laser Cartridges, Undated

These specifications require that remans meet or exceed OEM performance standards. Vendors must meet or exceed ASTM testing requirements and this must be verified in writing by a third party. Vendors must meet requirements for reman components, cleaning, and assembly. Vendor must provide for the collection and remanufacturing or recycling of empty cartridges.

I-ITC Standardized Test Methods Committee (STMC) Certification

The International Imaging Technologies Council (I-ITC) is a nonprofit imaging supply industry trade association. I-ITC's Standardized Test Methods Committee (STMC) has created an international standard for testing print quality, cost-per-page yield, and packaging integrity of OEM and remanufactured toner cartridges. The STMC standard requires vendors to conduct a series of standardized tests including ASTM F 1856 and F 2036, ANSI IT2.17, and ISTA 1A. STMC certified vendors have been trained on and agree to use these testing methods, have acquired the proper testing equipment, and have passed an inspection. Training and inspections are conducted by authorized trainers who have completed a program at the Rochester Institute of Technology. Trainers must be reauthorized every two years and vendors must be recertified every four years. Certified vendors can label products as STMC certified. Currently, the STMC certification is not available for color laser or inkjet cartridges.
> http://www.i-itc.org/stmguide.htm

ASTM F 1856 – Standard Practice for Determining Toner Usage for Printer Cartridges, 2004
This standardized testing method calculates the amount of toner used per page by a cartridge (i.e., a cartridge's page yield) (ASTM, 2000; MSE, undated).
> http://www.astm.org/Standards/F1856.htm

ASTM F 2036 – Standard Test Method for Evaluation of Larger Area Density and Background of Electro-photographic Printers
This testing method determines image quality, aesthetic appearance, visual impression of blackness, and the ability to distinguish information from the background.
> http://www.astm.org/Standards/F2036.htm

International Safe Transit Association (ISTA) – Testing Procedure 1A
This testing method assesses the impacts of packaging and transportation on a product's quality (e.g., as a result of vibration).
> http://www.mse-usa.com/docs/STMC.pdf

EcoLogo[CM] **CCD-039**
EcoLogo[CM], formerly known as Environmental Choice, is a Type I international eco-labeling program administered by the company TerraChoice Environmental Marketing, Inc. The CCD-039 standard for Remanufactured Printing Cartridges was finalized in August 1995 and is scheduled for review in November 2008. The standard requires that remans meet or exceed government and industry toner

cartridge performance standards and must comply with the Canadian General Standards Board's standard for "Remanufactured Toner Cartridges" (see below). This standard addresses disassembly, maintenance and reassembly, toner, labeling, performance, packaging, and inspection and testing. Vendors of EcoLogo[CM] certified products are required to include training materials on reman installation and maintenance and must strive to recycle all wastes associated with their businesses. Vendors must undergo initial verification and auditing processes and are subject to random audits and site visits.
> http://www.ecologo.org/common/assets/criterias/CCD-039.pdf

Canadian General Standards Board CAN/CGSB 53.148-2004
The Canadian General Standards Board is an organization of the Canadian Government that develops standards for health, safety, and environment. The CAN/CGSB 53.148 standard specifies the best processes to be followed for remanufacturing and performance requirements for the remans that are then used in laser printers. This standard was last updated in June 2004.
> http://www.techstreet.com/cgi-bin/detail?product_id=1089820

RPN's online product database includes STMC-certified remanufactured toner cartridge vendors in North America and EcoLogo certified remanufactured toner cartridges. These listings are updated regularly. It is advisable, however, to refer to the certifiers' websites for the most current listings.

CALCULATOR

REMANUFACTURED TONER CARTRIDGES MEASUREMENT TOOL

Use this tool, on the New York City website, to compare costs and wastes associated with reman and OEM cartridges.

http://www.nyc.gov/html/nycwasteless/html/at_agencies/measurement_tools_toner.shtml

- Producing a new OEM cartridge consumes approximately three quarts of oil, which can be saved by using remans rather than OEMs (StopWaste, undated).
- Over 350 million ink and toner cartridges are disposed each year in the U.S. and this volume is increasing by 12 percent annually (Business Wire, 2008).
- OEM cartridges contain engineering-grade polymers that can take over 1,000 years to decompose (CA, undated).
- Up to 6 million barrels of oil could be saved each year if these cartridges were remanufactured (RPN, 2008).
- OEM cartridge manufacturing uses 5 to 9 pounds of virgin material per cartridge (StopWaste, undated).
- A typical toner cartridge weighs 3 pounds and is composed of: 40% Plastic; 40% Metal; 20% Rubber, foam, and paper (StopWaste, undated).
- Cartridge remanufacturers in the U.S. reuse over 35 thousand tons of plastic and save over 400,000 barrels of oil each year (Sandoval, 2004; ClickPress, 2006).
- Cartridges can typically be reused up to three times before disposal.
- When remanufacturing is not an option, cartridges should be recycled, as over 95% of the component weight is recyclable (StopWaste, undated).
- There are an estimated 2,000 cartridge remanufacturers in the United States (many of which are small, local businesses), who produce over 27 million remans each year (Judge, 2008; Sandoval, 2004).
- Over $25 billion is spent worldwide on ink and toner cartridges annually (Sandoval, 2004).
- Remans cost 30% to 60% less than OEM cartridges on a cost-per-copy basis (INFORM, undated).
- Remans often contain up to 20% more toner or ink than OEM cartridges, which extends their useful life (CA, undated).
- King County, Washington purchased 7,250 remans in 2005, saving $300,000 compared to the cost of OEM cartridges (King County, undated).
- The City of Toronto reduced costs by 60% per cartridge by switching to remans (City of Toronto, 2006).
- Remans from certified suppliers are as reliable and offer the same quality standards as OEM cartridges (StopWaste, undated).
- By federal law in the United States, the use of remans cannot be the basis for voiding manufacturer equipment warranties (Nikolayev, 2008).

DEFINITIONS

Carbon Black	a petroleum based product used in toner that is carcinogenic but is not known to present risks when used in toner
Cartridge remanufacturing	process by which a used toner cartridge is emptied, cleaned, refurbished, and refilled with toner for use in an imaging machine
Drill and fill	an inexpensive method of reprocessing spent toner cartridges that leads to poor cartridge quality and performance since worn components are not replaced
EcoLogo CCD-039	standard for remanufactured cartridges with specifications for the remanufacturing process, cartridge quality, and end-of-life management
International Imaging Technology Council (I-ITC)	global trade association of the imaging supplies industry and institutional host of the Standardized Test Methods Committee (STMC)
International Safe Transit Association (ISTA)	testing and standard setting organization for packaging used for shipping goods
OEM	original equipment manufacturer
OEM cartridge	the cartridge that comes with original equipment from the OEM, or new replacement cartridges manufactured by the OEM for specific use with the original equipment
Reman	short for “remanufactured toner cartridge” (see “remanufactured toner cartridge” definition below)
Remanufactured toner cartridge	used toner cartridge that has been emptied, cleaned, refurbished, and refilled with toner for use in an imaging machine
Remanufacturer	company that produces and sells remanufactured toner cartridges
Standardized Test Methods Committee (STMC)	a global committee, created by the International Imaging Technology Council, to promote standardized test methods for the printer cartridge industry
STMC certification	certification for remanufactured toner cartridge vendors that signifies that the vendor’s employees are trained in and use STMC test methods
Toner	fine particles that fuse to the paper during the printing process
Toner dust	particles of toner that escape from a cartridge, are not fused to paper, and can be inhaled
Volatile organic compound (VOC)	organic compound that typically vaporizes at room temperature and participates in atmospheric photochemical reactions

ASTM. Standardization News. April 2000.
Available at **http://www.astm.org/SNEWS/APRIL_2000/toner_apr.html.**

Business Wire. Cartridge World Says, "Please Don't Feed the Landfill." April 2008.
Available at **http://www.businesswire.com**

CA – State of California. Office Machines – Toner and Inkjet Cartridges. Undated.
Available at **http://www.green.ca.gov/EPP/OfficeMach/toner.htm.**

CDC – Centers for Disease Control and Prevention. NIOSH Pocket Guide to Chemical Hazards. September 2005.
Available at **http://www.cdc.gov/niosh/npg/npgd0102.html.**

City of Toronto. City of Toronto's Experience Using Remanufactured Toner Cartridges. May 2006.
Available at **http://www.sistekdata.com/59_Savings.pdf.**

ClickPress. Toner Cartridge Remanufacturing Saves the Environment. May 2006.
Available at **http://www.clickpress.com/releases/Detailed/133337005cp.shtml**.

INFORM. Community Waste Prevention Toolkit: Toner Cartridge Fact Sheet. Undated.
Available at **http://www.informinc.org/fact_CWPtoner.php.**

Judge, Tricia. 2008. Conversation with Tricia Judge, Executive Director of the International Imaging Technology Council.

King County. Environmental Purchasing Program. Undated.
Available at **http://www.metrokc.gov/procure/green.**

MSE. White paper discussion on the benefits of Standardized Testing and affiliation with the International Imaging Technology Council. Undated.
Available at **http://www.mse-usa.com/docs/STMC.pdf.**

Nikolayev, Dmitriy. Remanufactured Toner Cartridge Fact Sheet. February 2008.
Available at **http://www.responsiblepurchasing.org/forum/user_messages.php?config[com_global][discussion_uid]=6&config[com_global][thread_uid]=23**

Office Depot. Top 20 Ways to Go Green at Work (and Save Money!). Undated.
Available at **http://www.community.officedepot.com/top20list.asp.**

Quality Logic. Reliability Comparison Study – HP Color Toner Cartridges vs. Remanufactured Brands. September 2005.
Available at **http://www.hewlettpackard.com/sbso/product/supplies/supplies_reliability_toner_cartridges.pdf.**

RPN – Responsible Purchasing Network. RPN calculation based on quarts of oil per cartridge and total number of cartridges disposed. Assumes that all of these cartridges are reusable, when in fact some cartridges will not be reusable. 2008

Sandoval, Dan. Toning up: the growth of the toner cartridge recycling industry can

be attributed to a very grassroots approach to reycling. Recycling Today. March 2004.
Available at **http://goliath.ecnext.com/coms2/gi_0199-460440/Toning-up-the-growth-of.html.**

StopWaste – www.StopWaste.org. Remanufactured Toner Cartridges in Alameda County – Fact Sheet. Undated.
Available at **http://www.stopwaste.org/docs/toner.pdf.**

StopWaste.org, 2006

This model EPP policy was prepared by StopWaste.org (Alameda County Waste Management Authority and Source Reduction and Recycling Board).

Section 3.0 contains provisions pertaining to remanufactured toner cartridges. Relevant excerpts are copied below.

3.1.2 [Organization] shall purchase remanufactured products such as toner cartridges, tires, furniture, equipment and automotive parts whenever practicable, but without reducing safety, quality or effectiveness.

3.1.4 All buyers shall consider short-term and long-term costs in comparing product alternatives, when feasible. This includes evaluation of total costs expected during the time a product is owned, including, but not limited to, acquisition, extended warranties, operation, supplies, maintenance, disposal costs and expected lifetime compared to other alternatives.

3.1.5 Products that are durable, long lasting, reusable or refillable are preferred whenever feasible.

3.1.6 [Organization] requests vendors to eliminate packaging or use the minimum amount necessary for product protection, to the greatest extent practicable.

3.1.7 Packaging that is reusable, recyclable or compostable is preferred, when suitable uses and programs exist.

3.1.8 Vendors shall be encouraged to take back and reuse pallets and other shipping and packaging materials.

3.1.10 [Organization] shall consider provisions in contracts with suppliers of non-electronic equipment that require suppliers to take back equipment for reuse or environmentally safe recycling when [organization] discards or replaces such equipment, whenever practicable.

3.1.11 All documents shall be printed and copied on both sides to reduce the use and purchase of paper, whenever practical.

3.2.2 Copiers and printers purchased shall be compatible with the use of recycled content and remanufactured products.

ADDENDUM 2: MODEL SPECIFICATION

Texas Department of Transportation, October 2005

REMANUFACTURED AND ORIGINAL EQUIPMENT MANUFACTURER'S (OEM) COMPATIBLE TONER CARTRIDGES

PUBLICATION

This specification is a product of the Texas Department of Transportation (TxDOT). It is the practice of TxDOT to support other entities by making this specification available through the National Institute of Governmental Purchasing (NIGP). This specification may not be sold for profit or monetary gain. If this specification is altered in any way, the header, and any and all references to TxDOT must be removed. TxDOT does not assume nor accept any liability when this specification is used in the procurement process by any other entity.

PART I GENERAL CLAUSES AND CONDITIONS

1. All parts not specifically mentioned, which are necessary for the unit to be complete and ready for operation or which are normally furnished as standard equipment shall be furnished by the vendor. All parts shall conform in strength, quality and workmanship to the accepted standard of the industry.

2. TxDOT encourages all manufacturers to comply voluntarily with the Society of Automotive Engineers (SAE) Recommended Practice for marking of plastic parts per the latest revision of SAE J1344. All plastic components furnished to this specification should have an imprinted SAE symbol identifying the resin composition of the component so that the item can be recycled after its useful life. Manufacturers are encouraged to use recycled plastics and materials in the manufacture of their products in order to conserve natural resources, energy and landfill space. Bidders should note that future specification revisions may require mandatory compliance with the SAE plastic coding system.

PART II SPECIFICATIONS

1. SCOPE: This specification describes the requirements, remanufacturing, packaging, documentation and testing of remanufactured or OEM compatible toner cartridges used in laser printers and facsimile machines.

2. GENERAL REQUIREMENTS

2.1. Vendor shall furnish cartridges that are OEM compatible or have been fully remanufactured. Both shall adhere to specifications equal to or exceed OEM cartridge specifications or approved remanufactured toner cartridge industry standards established by the Standardized Test Methods Committee (STMC), or the latest guidelines adopted by ASTM International for remanufactured or OEM compatible toner cartridges. Toner cartridges that are only refilled or recharged do not meet these specifications and are not acceptable.

2.2. The International Imaging Technology Council (I-ITC) provides the STMC guideline certification training for vendors. While not a requirement of the purchase order, TxDOT encourages vendors to become a member of I-ITC or other industry associations. These associations assist vendors in keeping current with the latest remanufactured toner cartridge industry developments and standards, and inform members about new techniques or tests developed to produce the best quality remanufactured toner cartridge product.

2.3. Vendor shall employ a minimum of one individual who has completed the current STMC certification training. This includes the standardized testing certification for ASTM F1856-98, ASTM F2036, ANSI IT2. 17-95, and ISTA 1A VERSION-99.

3. QUALITY CONTROL REQUIREMENTS: The remanufactured or OEM compatible cartridge shall include, but not be limited to, the following:

3.1. Assessment to determine if the cartridge can be remanufactured and a reliable method to measure reusability of parts.

3.2. Complete disassembly of cartridge to thoroughly clean and check all internal and external components against the original manufacturer's specifications. Worn, damaged or end of life cycle components shall be replaced.

3.3. Replacement of original OEM drum with a new organic photoconductor (OPC). If the returned cartridge is equipped with an after-market drum, vendor shall inspect it, clean it, and reuse or replace it with a new photoconductor drum.

3.4. Replacement of all seals with an OEM-type shipping seal or pressure sensitive seal. Seal shall withstand the International Safety Transportation Association (ISTA) 1A drop test.

3.5. Replacement of the primary charge roller (PCR) with a re-coated or new PCR.

3.6. Reuse of qualified wiper blades allowable, up to a maximum of ten cycles before replacement .

3.7. Replacement of or resetting smart chip shall be provided on cartridges using this technology.

3.8. Filling all cartridges with toner that meets or exceeds OEM toner performance for yield and density.

3.9. Replacing or chemically cleaning the corona wire assembly (where applicable).

3.10. Providing with each cartridge one fuser wand (where applicable) with high temperature resistant felt wiper and one cotton swab.

3.11. Other components may be replaced at different intervals, based upon component part or longevity standards.

4. VENDOR INSPECTION AND TESTING: Vendor shall perform random internal audits to ensure product quality, reliability and toner cartridge yields. A STMC trained quality advisor shall inspect all component parts before assembly and test the finished product to ensure the best quality and performance. Inspection and testing shall include:

4.1 A post-test print sample (vendor shall have test printers on site for each cartridge type).

4.2 A hard crease test (image separation shall be minimal).

4.3 Verification that the cartridge is not leaking and has not produced any adverse affects on the printer.

5. CARTRIDGE TESTING REQUIREMENTS

5.1. Upon award of purchase order, vendor shall be prepared to submit up to three designated cartridge model samples for testing. The cost of this testing shall be the responsibility of the vendor. Designated cartridges will be specified on the solicitation. Testing conducted by vendor will not be acceptable. The cartridge shall be sent to one of the independent third party organizations below:

5.1.1. The Rochester Institute of Technology (RIT)

5.1.2. Buyers Laboratory (BL)

5.1.3. Underwriters Laboratories

5.1.4. An independent testing laboratory for cartridge testing as approved by TxDOT.

5.2. Independent third-party testing requirements shall include the latest remanufactured toner cartridge industry standards adopted by the STMC or the latest guidelines adopted by ASTM for remanufactured toner cartridges:

5.2.1. ASTM F1856: Standard Practice for Determining Toner Usage for Printer Cartridges.

5.2.2. ASTM F2036: Standard Test Method for Evaluation of Larger Area Density and Background on Electrophotographic Printers.

5.2.3. ANSI/ISO 5-4-1995, ANSI/NAPM IT2.17-1995: Density Measurements – Part 4: Geometric Conditions for Reflection Density.

5.3. TxDOT reserves the right to alter or change the testing requirements.

5.4. Vendor shall provide a third party evaluation report for cartridge testing upon request by TxDOT, as specified in Para. 5.4.1. Report shall be submitted within 15 calendar days of award of purchase order. If additional time is needed to obtain this report, vendor shall obtain approval from TxDOT purchaser. Failure to submit report within this timeframe may result in cancellation of purchase order.

5.4.1. EVALUATION REPORT: The evaluation report shall include, at a minimum, the following items:

5.4.1.1. The performance of the remanufactured toner cartridges tested against these specifications and the requirements stated in Para. 5.2.

5.4.1.2. A concise summary of results that compares yields, image quality, and cartridge integrity performance of submitted samples against these specifications

5.5. Testing shall list a comparison of the OEM cartridge output with that of the respondent's remanufactured or OEM compatible cartridge to indicate no noticeable difference in the occurrence of print quality and/or print defects. Cartridges tested shall be an indication of the product quality produced by the vendor.

5.6. TxDOT reserves the right to submit up to three cartridge model samples, taken from a regular shipment, to RIT or other TxDOT approved independent testing laboratory to verify the continuing quality of cartridges being supplied.

5.6.1. The cost of this testing shall be the responsibility of the vendor.

5.6.2. TxDOT reserves the right to require re-certification of the specified cartridge(s), or other designated cartridge model(s), prior to purchase order renewal.

6. CARTRIDGE MODEL INTRODUCTION/CHANGES

6.1. The vendor shall notify TxDOT of remanufactured or OEM compatible cartridge models that are being introduced into the market, including a projected date of availability.

6.2. The vendor shall provide written notification when component sources, materials or remanufacturing processes change. At such time, TxDOT reserves the right to require the vendor to re-certify any designated cartridges by the approved testing laboratory.

6.3. TxDOT reserves the right to add remanufactured or OEM compatible cartridge models to the purchase order upon availability.

6.4. TxDOT reserves the right to delete from the purchase order remanufactured or OEM compatible cartridge models that are obsolete and no longer available.

7. CARTRIDGE PACKAGING

7.1. Vendor shall clearly label each cartridge with vendor's name, model number, and date assembled.

7.2. The cartridge shall be placed in an anti-static moisture proof bag and either heat-sealed or zip-locked. The cartridge shall then be placed in internal protective cradle prior to being packaged in an external carton.

7.3. The internal protective cradle shall be recyclable, reusable or contain recycled content material.

7.4. The external carton and packaging shall protect the cartridge from damage during shipping. The external carton and packaging shall be recyclable, reusable or contain recycled content material.

7.5. The external carton shall identify cartridge type (make and model), the vendor's name, address, telephone number, and purchase order number. All cartridge boxes shall also bear the assembly date and expiration date for shelf life and inventory purposes.

8. CARTRIDGE INSTALLATION INSTRUCTIONS: The vendor shall provide concise cartridge installation instructions (on one sheet, booklet, instructions on the box or label) with every cartridge. The instructions shall contain directions for cartridge and fuser wand replacement (where applicable), directions for returning empty cartridges for remanufacturing, and a telephone number to call if the cartridge is found to be defective.

9. DEFECTIVE CARTRIDGES

9.1. All defective cartridges will be returned to the vendor at vendor's expense. Vendor shall establish return shipping methods or shall pick up defective cartridge(s) in-person at TxDOT's location. TxDOT's Recycling Project Administrator (RPA) designated on the purchase order will coordinate with vendor for defective cartridge pickup.

9.2. Vendor shall perform an analysis to determine the cause of the problem for any cartridge returned by TxDOT.

9.2.1. The analysis report shall be delivered to the RPA within ten business days.

9.2.2. If the analysis determines that the cartridge failed, a replacement-remanufactured or OEM compatible cartridge shall be provided at no expense to TxDOT within five business days from completion of analysis. Replacement cartridges shall be properly marked as replacements and identified by the PO number.

9.2.3. If TxDOT has reoccurring uncorrected problems with a particular cartridge model, or if there are page yields consistently below OEM standards or approved remanufactured toner cartridge industry standards, TxDOT may cancel the cartridge model from the purchase order.

9.2.4. If any cartridge(s) fails in a regular shipment to meet the quality standards stated within this specification, the vendor will be notified and given five days to replace shipment. Failure to correct the situation will result in cancellation of the purchase order.

9.2.5. If the overall cartridge defect rate exceeds two percent of all cartridges utilized within any two-month period, TxDOT reserves the right to cancel the purchase order.

10. WARRANTY AND SERVICE

10.1. The vendor shall warrant the remanufactured or OEM compatible toner cartridges against defects in material and workmanship for a minimum of one year from the assembly date.

10.2. The warranty does not apply to any defects caused by end user negligence, alteration, accident or misuse, failure to operate the printer according to the printer manufacturer's specifications, or failure to properly install the cartridge. A warranty notice shall also be placed within each cartridge box to insure that end users are aware of the warranty and what steps to take to initiate warranty measures.

10.3. The vendor is not responsible for replacing any cartridge(s) if it is determined TxDOT stored the cartridges improperly.

10.4. If problems occur with printers due to a vendor's defective remanufactured or OEM compatible cartridge, vendor shall provide either one of the following (not both):

10.4.1. A competent factory-trained authorized service technician to repair printer

10.4.2. Reimbursement of any printer service performed due to the vendor's defective cartridge

10.5. SERVICE TECHNICIAN: If the option to use a service technician is chosen (Para. 10.4.1), the service technician shall:

10.5.1. Be certified to perform repairs on Hewlett-Packard, Lexmark, Canon, or other designated printer manufacturer's equipment.

10.5.2. Be on site no later than the next business day after notification. Provide service between normal business hours of 8:00 a.m. through 5:00 p.m., Monday through Friday (with the exception of state and national holidays).

10.5.3. Resolve the problem within two business days or otherwise inform TxDOT personnel of the status and timeframe for fixing the problem.

10.6. Vendor shall provide copies of all designated service technicians' printer certifications at the time of the award.

11. MANUFACTURING FACILITY: The manufacturing facility shall be equipped with the following:

11.1. Dust collection system to filtrate air to ensure health and safety of employees and eliminate toner contamination.

11.2. Climate controlled facility to ensure toner consistency.

11.3. Equipment and software to generate grayscale and black and white prints with graphics and text.

11.4. Computerized filling equipment that allows for custom toner loading to meet OEM yield requirements.

11.5. OPC inspection equipment to measure coating thickness, excessive wear or damage to drum if OPCs are to be reused.

12. SUBCONTRACTING: Subcontractors providing service under the purchase order shall meet the same requirements and provide the same service and level of experience as required of the vendor. No subcontract under the purchase order shall relieve the primary vendor of responsibility for the service. If the vendor uses a subcontractor for any or all of the work required, the following conditions shall apply under the listed circumstances:

12.1. Respondents planning to subcontract all or a portion of the work shall identify the proposed subcontractors at the time of response.

12.2. Subcontracting shall be at the vendor's expense.

12.3. TxDOT retains the right to check subcontractor's background and make the determination to approve or reject the use of submitted subcontractors. Any negative responses may result in disqualification of the subcontractor.

12.4. The vendor shall maintain all project management, schedule and responsibilities for the subcontractor.

12.5. The vendor shall pay subcontractor in accordance with Texas Government Code §2251.022.

12.6. The vendor shall be the only contact for TxDOT and subcontractor.

13. CUSTOMER SUPPORT: Vendor shall provide:

13.1. One-on-one customer support with the RPA and TxDOT personnel as required.

13.2. Communication with the RPA regarding product performance, customer service feedback, or other matters pertaining to the purchase order.

14. RESPONSE SUBMISSIONS

14.1. Failure to submit the following will disqualify response. Respondent shall provide:

14.1.1. Signed, dated, and completed Request For Offer form.

14.1.2. HUB Subcontracting Plan, if applicable.

14.1.3. Schedule 1: References (Para. 16).

14.1.4. Signed copies of each certificate for each company personnel who have completed within the past two years the STMC training as stated in Para. 2.3.

14.1.5. Verification that the company has a densitometer, test printers and applicable operation procedures to perform on-site cartridge testing

14.1.6. A brief written overview detailing the type of quality control used in the process of remanufacturing cartridges.

14.1.7. Procedures used to pre-qualify toner batch types and other primary components placed into remanufactured toner or OEM compatible cartridge production

14.1.8. Overall defect ratio for each cartridge specified in the solicitation for the previous 12-month period prior to solicitation closing. At TxDOT's request, respondent shall provide documentation detailing the quality control procedures used to verify defect ratio.

14.1.9. A cost-per-page average analysis of each cartridge specified in the solicitation with response. The cost-per-page average shall be calculated by taking the total individual cartridge cost and dividing this number by the total individual cartridge yield (number of pages printed by each cartridge).

14.2. Technical certifications or awards achieved within the previous five years may be submitted with response.

15. REFERENCES: Respondent shall submit with their response, the name, address, telephone number and point-of-contact of a minimum of three firms for which the respondent has provided remanufactured laser printer cartridges. (See Schedule 1) References will be checked prior to award. Any negative responses received may result in disqualification of the response.

16. POST AWARD MEETING: Vendor shall attend a post award meeting with the RPA at TxDOT's location within ten calendar days after the award of the purchase order. Vendor shall provide a list of questions and concerns prior to the meeting. The purpose of this meeting will be to discuss the terms and conditions of the purchase order, other details related to performance, and to provide additional information.