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Environmentally Preferable Purchasing Program

The City of Santa Monica's **Environmental Purchasing** A Case Study







Environmentally Preferable Purchasing Program

Environmentally preferable purchasing ensures that environmental considerations are included in purchasing decisions, along with traditional factors, such as product price and performance. The EPP program provides guidance for federal agencies to facilitate purchases of goods and services that pose fewer burdens on the environment.

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The U.S. Environmental Protection Agency (EPA) recognizes that environmentally preferable purchasing is a dynamic concept that, depending on the product category, will not necessarily be implemented in the same manner within an agency or organization. In order to demonstrate some of the ways environmental purchasing principles are currently being applied, EPA is documenting examples of environmental purchasing efforts undertaken by Executive agencies, state and local governments, and the private sector.

This case study describes the city of Santa Monica's efforts to identify and purchase products and services that minimize the burden on the environment and human health. It provides an overview of Santa Monica's broad-reaching environmental purchasing efforts and describes the city's program, the lessons it learned, and the key reasons for its success. We hope the lessons and insights documented in this case study will help you and your organization as you begin incorporating environmental preferability into your purchasing decisions.

Purchasing in Perspective

- The federal government purchases more than **\$200 billion** worth of goods and services each year.
- State and local governments combined purchase more than **\$1 trillion** worth of goods and services per year, according to *Governing* magazine's *Sourcebook 1997*.
- In fiscal year '96/'97 the city of Santa Monica purchased more than \$32.5 million worth of goods and services.

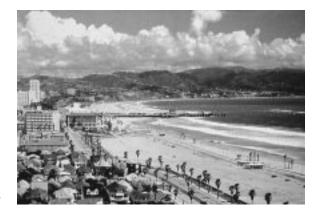


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Introduction

The city of Santa Monica, California, bordered by the Pacific Ocean and the city of Los Angeles, has recently emerged as a leader in the field of environmental purchasing. This community of 90,000 has a strong commitment to environmental conservation and relies on a healthy environment, in part because the city's tourism industry brings in more than \$520 million per year. Santa Monica has shown how one local government can alter its purchasing policies in a short time to produce win/win situations that benefit end-users and the environment. In just a few years, the city began buying products and services it deemed to be environmentally preferable in a wide variety of areas including custodial services, fleet maintenance, and



pest management. These environmental products and services perform as well as or better than their traditional counterparts and, in some cases, also save the city money. The following are just a few of the many successes related to Santa Monica's environmental purchasing efforts:

- Citywide, Santa Monica replaced its traditional cleaning products with less toxic or nontoxic alternatives in 15 of 17 cleaning product categories, which reduced spending on custodial products by approximately 5 percent.
- Santa Monica switched to an integrated pest management approach at all city facilities, a method that costs up to 30 percent less than the traditional method of regular pesticide application.
- Santa Monica purchases a wide range of recycled products including office paper, recycled paint, and trash can liners.
- Of all city vehicles, 67.5 percent use re-refined motor oil and antifreeze made with propylene glycol (deemed by the city to be less toxic than ethylene-glycol antifreeze).
- Approximately 20 percent of the city's vehicles are powered by alternative fuels including compressed natural gas, electricity, and propane.

Santa Monica uses existing purchasing procedures to implement new environmental purchasing policies. The city also looks for ways to improve, expand, and simplify the environmental purchasing process. Among the chief reasons for the city's success (discussed in more detail on pages 12 and 13) are the following:

- Having support from the top
- Including the end-users in the decision-making process
- Conducting up-front research

- Adopting a customized approach to purchasing
- Creating partnerships between environmental and purchasing staff
- Implementing pilot programs
- Providing hands-on training by experts
- Holding face-to-face meetings with vendors
- Maintaining flexibility
- Evaluating the program and planning next steps

This case study provides an in-depth look at the steps Santa Monica took to achieve its success in evaluating, purchasing, and using alternative products and services. While Santa Monica has its own unique challenges in implementing its environmental purchasing efforts, the city's pragmatic, flexible approach and the lessons it learned along the way are helpful guides for any agency or organization seeking to meet environmental purchasing goals.

Environmental Purchasing Policies

The Sustainable City and Toxics Use Reduction Programs

The impetus for environmental purchasing comes from Santa Monica's Sustainable City Program, a citywide effort striving to "create the basis for a more sustainable way of life—helping the city meet its current needs without compromising the ability of future generations to do the same." Beginning in 1991, a volunteer task force of community representatives and city officials identified sustainability as a fundamental goal to guide the city's environmental policies and programs and, to the extent appropriate, other programs not traditionally included in environmental planning such as housing and economic development. This task force created the Sustainable City Program to provide the city with a coordinated, proactive

approach to implementing the city's existing and planned environmental programs. Formally adopted in September 1994, the program's far-reaching goals include reducing resource consumption, reducing the use of hazardous materials, reducing waste generation and pollution, and safeguarding the local environment and public health. As part of the Sustainable City Program, Santa Monica has set purchasing goals for products such as recycled paper and alternative-fuel vehicles.

The Sustainable City Program's farreaching goals include reducing resource consumption, reducing the use of hazardous materials, reducing waste generation and pollution, and safeguarding the local environment and public health.

In addition, the city adopted the Toxics Use Reduction (TUR) Program, a set of policies implemented by the

city's Environmental Programs Division that are part of the broader Sustainable City Program. With the goal of reducing the city's use of toxics, the TUR Program governs the purchasing of all products that contain chemicals. The Environmental Programs Division's implementation of this program involves overseeing the purchasing of cleaning products, fleet maintenance products, and pest management services.

Before deciding which products to focus on, the city asked students working on their master theses for the Pollution Prevention Research Center of the Department of Urban Planning at the University of California at Los Angeles (UCLA) to study citywide purchasing of hazardous products. UCLA's study listed all the chemicals the city purchased by departments and by subject groupings in the following categories: custodial products, pesticides, fleet maintenance and automotive repair, and other (e.g., streets division, parks, and paints). This baseline research laid the groundwork for the TUR Program and Santa Monica's environmental purchasing strategy.

Environmental Products Purchased by Santa Monica

The city of Santa Monica currently purchases the following alternative products or services it deems to have a reduced impact on human health and the environment:

Cleaning Products All-purpose cleaner Bathroom cleaner Brass polish/cleaner Carpet shampoo Chrome polish/cleaner Degreaser/cleaner Deodorizer

Deodorizei

Disinfectant

Enzymatic cleaner/digester

Furniture polish

Glass and window cleaner

Graffiti remover

Liquid hand soap

Solvent spotter

Fleet Maintenance

Antifreeze Alternative-fuel vehicles Brake cleaners Parts washers Re-refined motor oil Retread tires

Integrated Pest Management Service (as a replacement for pesticide sprays)

Recycled Products

Aggregate for street resurfacing

Business cards

Janitorial paper products

Laser printer cartridges

Office paper (e.g., stationery, envelopes, computer, and photocopier)

Recycled paint

Plastic semiautomated refuse carts

Trash can liners

Environmental Purchasing in Santa Monica

The Environmental Programs Division in Santa Monica accomplishes the city's environmental purchasing goals using existing purchasing procedures. Santa Monica's purchasing procedures vary based on the dollar amount of the purchase, the volume of the purchase, and the frequency with which the product is used. Environmental purchasing practices vary accordingly. For example, alternative cleaning products, which are high-volume, frequently used products, are stocked at the city's warehouse. Fleet maintenance and recycled-content products, however, are obtained in one of three ways:

- High-volume, frequently used products, such as recycled-content office paper, are stocked at the city's warehouse.
- Low-cost, low-volume products are bought by individuals in the form of small purchases (under \$1,000).
- Most other environmental purchases are made by the city's central Purchasing Division at the request of individual city departments.

By using existing procedures, Santa Monica was able to switch to alternative products without placing an extra burden on procurement staff. Since individual departments or the Environmental Programs Division perform the research and prepare the specifications for a given product, procurement staff are able to process these purchases in the same way they would traditional products. Diane Howell, one of the two main buyers for the city and the only buyer for the city's warehouse, confirmed that the purchasing of alternative products does not take more time than purchasing traditional products. The specifications she uses have changed, but the procedure is the same.

Implementing the TUR Program effectively added a layer of environmental decision-making to the purchase of many products, since all decisions about what chemicals the city will buy are now made by the Environmental Programs Division. The city's two main buyers know that if the product contains a chemical, they need to contact the Environmental Programs Division before they make the purchase. Environmental Programs Division staff will then provide them with specifications for the alternative product the city now uses. In this way, the buyers help the Environmental Programs Division screen all purchases over \$1,000 before they are made to ensure that they are in keeping with the city's policies. For purchases under \$1,000, individuals in various city departments act independently, and the Environmental Programs Division can only review these purchases after they are made.

In general, Santa Monica's environmental purchasing decisions are based on three main criteria: environment and human health, performance, and cost. For products purchased under the TUR Program, Santa Monica ranks these criteria in a distinct hierarchy. A product is judged first and foremost on whether it meets the city's specific environmental and human health criteria for that product. Santa Monica bases this criteria on up-front research, feedback from end-users, and pilot programs. If a product meets established criteria, it is then tested for performance. Finally, products that pass both these tests are evaluated based on cost. At this point, Santa Monica chooses the lowest bid.

The Players: Environmental Purchasing in Santa Monica

- The Environmental Programs Division implements the TUR Program, a set of policies designed to reduce the city's use of toxics, that governs the purchasing of any product containing chemicals. The Environmental Programs Division conducts research, drafts specifications, reviews bids, and makes recommendations.
- Other city divisions, including the Engineering Division, Public Works Division, and the Fleet Maintenance Division, also conduct research, draft specifications, review bids, and make recommendations.
- The City Council reviews and approves all bids for purchases over \$25,000 including the purchase of alternative cleaning products. The City Council supports environmental purchasing.

- The city's **buyers** in the Purchasing Division procure products for individual departments and the central warehouse. If a product contains a chemical, they consult the Environmental Programs Division for specifications. They also are aware of the city's policies for recycledcontent products.
- Individuals in city departments contact the Purchasing Division for all purchases over \$1,000. Individuals also make small purchases (under \$1,000) using quick purchase orders. They have been informed of the city's policies for recycled-content products and products containing chemicals but act independently. Individuals obtain many items, such as cleaning products and recycled-content office paper, from the central warehouse.

"Responsible Bid"—City Municipal Code Language to Support Environmental Purchasing

Santa Monica's city municipal code contains a clause that opens the door for environmental purchasing. Instead of requiring purchasers to choose the lowest bid, Santa Monica's city charter requires that they choose the "lowest and most responsible bid." The municipal code states, "In evaluating whether a person is the lowest responsible bidder pursuant to this Chapter, City staff may utilize some or all of the following criteria, in addition to price:

- 1. The quality of the material or services offered.
- 2. The ability, capacity, and skill of the bidder to perform the contract or provide the material or services.
- 3. The capacity of the bidder to perform the contract or provide the service promptly, within the time specified, and without delay or interference.
- 4. The sufficiency of the bidder's financial resources.
- 5. The character, integrity, reputation, judgment, training, experience, and efficiency of the bidder.
- 6. The ability of the bidder to provide such future maintenance or service as may be needed."

The Environmental Programs Division uses this existing municipal code language to help it implement environmental purchasing. When it makes a recommendation to the City Council for purchasing products or services deemed environmentally preferable, it justifies this recommendation by using a broad interpretation of the first criterion: "the quality of the material or services offered." The current City Council supports environmental purchasing and, therefore, accepts this broad interpretation.

In addition, the city is exploring ways to strengthen environmental purchasing by updating the municipal code. For example, a seventh criterion might be added to the definition of what constitutes a responsible bid. The seventh criterion would include "the public health and environmental attributes of the materials or services" in the decision-making process. Should the City Council approve such a change to the city's municipal code, it would ensure that future city administrations continue to support environmental purchasing. anta Monica has developed an environmental purchasing process that goes far beyond writing specifications and obtaining bids. Its process includes the enduser in decision-making and follows up a purchase of alternative products with training and evaluation. While the city tailors its approach to specific products or services, the purchasing process generally includes the following stages:

- Researching products
- Drafting specifications
- Obtaining vendor information
- · Evaluating bids and testing products
- Running a pilot program
- Training end-users
- Evaluating the product and process

Environmentally Preferable Paperwork

In addition to requiring vendors to provide information about the environmental and human health attributes of their products, Santa Monica also requires that the actual bids be consistent with the city's environmental goals. All of the city's Requests for Proposals require vendors to comply with the following documentation guidelines:

- All copies shall be printed on recycled and/or tree-free paper.
- All copies shall be double-sided.
- Report covers or binders shall be recyclable; use of plastic covers or dividers should be avoided.
- Unnecessary attachments or documents not specifically asked for should not be submitted. Avoid superfluous use of paper (e.g., separate title sheets or chapter dividers).

Cleaning Products

Santa Monica's purchase of alternative cleaning products under the TUR Program provides an in-depth look at how the city's environmental purchasing process works in practice.

Research

Santa Monica's pragmatic approach to environmental purchasing includes implementing its purchasing policies one product category at a time. The city chose to start with custodial products because of the amount of research previously done on these products. Before drafting specifications for alternative products, the city compiled information from Green Seal, the Washington Toxics Coalition, and a local independent consultant. It also reviewed the work of Canada's Environmental Choice program and Germany's Blue Angel program in the area of custodial products. In addition, the custodial staff's insights and concerns were taken into consideration before drafting specifications.

The Players: How Alternative Cleaning Products Are Purchased

- The Environmental Programs Division evaluates bids and makes a recommendation to the City Council.
- The City Council awards the contract.
- The **buyer** for the city's warehouse buys the alternative products specified.
- City custodial staff and contract custodial staff must obtain products from the warehouse.

Drafting Specifications

Using information from these sources, Santa Monica prepared a comprehensive list of specifications for alternative cleaning products and required vendors to provide information on a wide range of environmental criteria, including toxicity, air quality, corrosiveness, and biodegradability, for their products. Santa Monica also specified that products be supplied in concentrated form to reduce the amount of packaging.

Initially, each of these criteria was assigned a point value, based on a predetermined range. For example, corrosiveness was rated on a scale of 0 to 2, while biodegradability was given a score of 0 to 3 points. These criteria are an explicit reflection of the city's priorities and local concerns. Deborah Raphael, Environmental Analyst and manager of the TUR Program, noted that it was "a real challenge to assign point values [and] decide threshold levels." When established standards existed, such as federal

definitions of a primary irritant versus a slight irritant, Santa Monica used those standards to set threshold levels. When no established standards were available, the city relied on its research and the professional judgment of a technical advisory group. Santa Monica assigned relative point values for each of the environmental attributes based on its needs as an ocean community near Los Angeles. Two of its top priorities were biodegradability and aquatic toxicity. Since cleaning products are used in and around city buildings and parks that are in close proximity to the ocean, and there is the potential for runoff, it was important to the city that products biodegrade quickly and be less toxic to marine life. Given Santa Monica's location in the southern California region, which has high levels of air pollutants, the city also was particularly concerned about air quality issues such as volatile organic compound (VOC) levels. Other environmental attributes considered by the city, such as whether the product was tested on animals, were considered important but did not receive the same emphasis in the selection process as those attributes that were tied to the city's top priorities.

Obtaining Vendor Information

Santa Monica received information from a number of vendors interested in providing alternative cleaning products and created hard copy files for each vendor. When it came time for the for-

Criteria Evaluated by Santa Monica for Alternative Cleaning Products:

- Acute toxicity.
- Chronic toxicity.
- Biodegradability.
- Skin irritants.
- Flammability.
- VOC levels.
- Corrosiveness.
- Presence of petroleum or hydrocarbons.
- Presence of ozone-depleting chlorinated compounds.
- Presence of artificial dyes or fragrances.

mal bid process, Santa Monica used these files to prepare the mailing list for sending out Requests for Proposals (RFPs). Brian Johnson, Environmental Programs Coordinator, noted that although Santa Monica had been warned by some vendors that its criteria were too onerous and that no vendors would submit bids, the city received 17 submittals covering 200 products. Santa Monica found, however, that it was sometimes difficult to obtain accurate, complete information from these vendors. Often, material safety data sheets (required by the U.S. Occupational Safety and Health Administration) were submitted with key information marked "not available." Sometimes, vendors would list a general category such as "surfactant" in their list of ingredients, and the city would not have enough information to determine the environmental impact of the particular surfactant used. When vendors could not provide information on a criterion, they were given a poor score in this category. For the aquatic toxicity criterion, however, almost all of the vendors were unable to provide data, in part because the city was the first to ask for this information.

Evaluating Bids and Testing Products

Santa Monica reviewed all of the bids received based on its established criteria. The city reviewed material safety data sheets and statements by vendors that their products met the established criteria. In addition, for certain criteria, such as biodegradability, the city required that vendors provide lab tests. Santa Monica provided guidelines for these tests but did not require the vendors to go to an outside testing lab. Santa Monica did not have the time, resources, or expertise, however, to verify manufacturers' claims about products. The city investigated third-party certification but has not found an organization that performs the comprehensive product evaluations it is seeking. Deborah Raphael noted that the city's environmental purchasing efforts would be aided by an objective, comprehensive, third-party certification program run by a government agency, university, or nonprofit organization.

Products meeting the established environmental and human health criteria were then tested for efficacy by the city's custodial staff. This hands-on testing, and the corresponding feedback from staff members, was a crucial step in the process of evaluating competing bids. For example, when the city tested a line of products from one vendor, all of the products performed well with the exception of the all-purpose cleaner. Based on this performance testing, the city chose to purchase an all-purpose cleaner from a different vendor whose product was approved by custodial staff.

After the city tested products for performance, it evaluated them for cost. Cost was not the primary consideration used in evaluating products. Instead, the goal of the program was "to achieve a cost savings while maintaining or improving the level of service." In its first 2 years, Santa Monica estimates that it saved approximately 5 percent by purchasing alternative cleaning products rather than traditional products. This cost savings resulted in part from the reduced packaging and shipping costs associated with concentrated products. In addition, improved custodial training led to more efficient use of products, which also contributed to cost savings.

Redrafting Specifications

Santa Monica is currently revising its criteria for cleaning products to simplify them for future use and for sharing with other communities as well as to address challenges revealed during the first round of bids. When the city began revising its criteria, Santa Monica initially noted the potential for subjectivity with the point system and considered switching to a pass or fail evaluation system. The city was concerned, however, as Deborah Raphael notes, that with a pass or fail system, "too much would pass through the sieve." For example, if pH were a pass or fail criterion, "a product could use sulfuric acid and have a pH of 4 or citric acid with a pH of 4, [and] sulfuric acid is much more corrosive." The final set of revised criteria, therefore, will consist of both the point and pass or fail systems.

One of the city's initial criteria rated corporate environmental responsiveness based on the vendor's support of environmental conservation efforts, environmental justice work, cruelty-free testing, and other areas. Santa Monica discovered, however, that this criterion led to an unintended bias towards larger companies that have the resources to support environmental or social responsibility causes. Small companies struggling to market one product, on the other hand, might not have such resources. For this reason, Santa Monica might eliminate this criterion.

In the first round of bids, most of the vendors were unable to provide information about aquatic toxicity. The city decided to buy cleaning products from vendors that did not provide this information and, therefore, is considering eliminating or deemphasizing the criterion. Deborah Raphael noted that factors that caused the city to lean in this direction included the following:

- Pragmatism and environmental priorities clashed in this instance. The city recognized that it needed cleaning products for its custodians.
- Smaller companies were unable to provide the data, but Santa Monica did not want to put smaller companies at a disadvantage.
- The city hoped that other criteria, including biodegradability and the requirement that additives used be "food-grade," would mitigate the fact that aquatic toxicity was not included.

Pilot Program

Before switching to alternative cleaners citywide, Santa Monica ran a 10-month pilot program. Santa Monica's independent consultants recommended a line of products, as well as specific products and quantities for particular applications, in each city department. The Environmental Programs Division then held an initial meeting with custodial managers and supervisors to create awareness of the program. Custodial staff then received training and began using the alternative products. Their feedback about the products was solicited at a series of meetings with the consultants and Environmental Programs Division staff. A focus group of "stakeholders" was formed to provide more in-depth input. These stakeholders were custodial staff who had an increased awareness of or interest in the alternative products and/or had achieved the respect of their peers. Santa Monica recognized that these stakeholders had expertise in specific areas of custodial care and made use of this expertise in the evaluation process. For example, one custodial staff member was recognized by his peers as being an expert in floor care. Santa Monica asked him to test the floor care products because of his expertise and credibility with other staff.

Keys to Santa M

- **Having Support From the Top.** The support of high-level officials, such as the City Council, city manager, and department heads, makes a crucial difference.
- Including End-Users in the Decision-Making Process. Santa Monica's experience shows that when end-users are included in the process of selecting alternative products, they are less resistant to changing established practices. End-users' knowledge of and experience with the particular product or service help purchasing officials select the most effective alternative products and make them credible advocates of environmental purchasing.
- Conducting Up-Front Research. Santa Monica's baseline research about the city's needs and about alternative products and services helps the city draft specifications and evaluate bids. For this research, Santa Monica consults independent consultants, nonprofits, universities, product manufacturers, programs run by other governments, and city staff.
- Adopting a Customized Approach to Purchasing. For each environmentally preferable product or service purchased, Santa Monica tailors its approach so that it can implement its environmental purchasing goals using existing purchasing procedures. For example, cleaning products are purchased through a citywide bid, while fleet maintenance and recycled products are purchased on a product-by-product basis. Customizing environmental purchasing based on product category helps the city achieve its goals.
- Creating Partnerships Between Environmental and Procurement Staff. In Santa Monica, Environmental Programs Division staff conduct product research and draft specifications that the city's Purchasing Division staff use to procure products. Purchasing Division staff also contact Environmental Programs Division staff with questions about requests for products that contain chemicals. This teamwork approach helps the city achieve its environmental purchasing goals without increasing the workload of procurement officers.
- Implementing Pilot Programs. Testing alternative products on a limited basis through pilot programs allows Santa Monica to test products for efficacy, include end-users in the decision-making process, and overcome end-user skepticism about alternative products. The information gathered during these pilot tests helps the city draft comprehensive, usable specifications for the bid process.

onica's Success

- Providing Hands-On Training by Experts. Santa Monica finds that training end-users is a key step in the process and that trainers must be credible to the end-users. The city used custodial experts to teach custodians how to use the alternative cleaning products and brought in a pest-control expert to show city staff how to prevent pests. It also finds that hands-on demonstrations are particularly effective, as they help convince skeptical end-users that the alternative products perform as well as or better than traditional products.
- Holding Face-to-Face Meetings. Santa Monica finds that face-to-face meetings with vendors help improve the quality of bids by providing an opportunity for Environmental Programs Division staff to answer vendors' questions and to emphasize the importance of complete, accurate information.
- Maintaining Flexibility. Santa Monica's environmental purchasing programs continue to evolve and respond to lessons learned during program implementation. For example, the specifications for cleaning products are being substantially revised based on the city's experiences in the first bid process.
- Evaluating the Program and Planning Next Steps. Santa Monica's Environmental Programs Division staff and Purchasing Division staff continuously evaluate the success of the program and products with an eye toward improvement.

Two years after the inception of the Sustainable City Program, Santa Monica prepared a comprehensive report detailing program successes, obstacles, and plans for the future. For copies of *The Sustainable City Progress Report*, contact Dean Kubani, Environmental Analyst: phone: 310 458-2227, e-mail: <deankubani@ci.santa-monica.ca.us>, or visit the web site <www.ci.santamonica.ca.us/environment/policy>.

Santa Monica's Successes With Alternative Cleaning Products

- Replaced toxic products used throughout the city with less toxic or nontoxic alternatives in 15 of 17 cleaning product categories.
- Eliminated approximately 3,200 pounds annually of hazardous materials in products purchased.
- Reduced spending on custodial products by 5 percent.
- Developed proven and effective procurement specifications that can be adapted for use in future TUR Program efforts.
- Increased morale of custodians who recognize the city's concern for their health and working conditions and who appreciate the opportunity to participate in making decisions about their work.

During this pilot phase, the city discovered that most of the new products performed as well as or better than the products they replaced, except for the floor care products. The city discovered that the less toxic strippers provided by the vendor could not remove previous layers of wax and also did not work well on the less toxic wax supplied under the same label. The city continues to buy the products used in the past, therefore, but is working to reduce the amounts of the products used. Santa Monica also continues to look for alternative products that meet its needs.

The pilot phase also revealed that the method of applying alternative products was instrumental in their effectiveness. Based on this information, the city decided to expand its training program for custodial staff and to purchase a different kind of rag for applications. The type of rag traditionally used, a treated T-shirt knit fabric, was not very effective at removing dirt and required the use of more cleaning product. The new terry-cloth type rag actually makes it possible to reduce the amount of cleaning products used, which helps the city achieve its goal of reducing toxics. The city used the experience and information obtained in the cleaning products pilot phase to draft its specifications for the formal bid process and plan the implementation of the citywide switch to alternative cleaners.

The city recognized that it could not take a "one size fits all" approach to implementing its program because of the different kinds of arrangements for the custodial care of different city buildings. Whether a particular building is city owned or city leased affects the arrangements for custodial care. About 50 percent of the city's custodial staff are city employees, while the other 50 percent are contractors. Of these independent contractors, most have contracts directly with the city, but some have contracts with the owners of city-leased buildings. One of the challenges the city faced was how best to tailor the implementation of its program to these different circumstances, especially in the area of custodial staff training.

End-User Training

Training was an essential part of Santa Monica's switch to alternative cleaners. The city's research and pilot testing revealed that alternative cleaners would need to be applied differently to achieve the same results. Santa Monica instituted a training program for all of its custodial staff including both city employees and contract staff. For most contract staff, their contracts specify that they must use the alternative products stocked at the warehouse and participate in training. City employees and contractors

alike received training on using the alternative products. The city found that the training of its own employees was more effective, however, because contractors tend to have higher staff turnover.

Custodial experts led small group training sessions using hands-on demonstrations. These demonstrations made the training more effective and helped convince reluctant end-users that the alternative products performed as well as or better than traditional products. Custodial staff initially came to these sessions because their supervisors required them to, but, as Deborah Raphael notes, many staff found that they enjoyed the training. The custodial staff's willingness to adjust their practices was critical to the success of Santa Monica's efforts.

Evaluating the Product and Process

Since the inception of the TUR Program in 1994, Santa Monica has conducted regular formal and informal evaluations of both the cleaning products used and the purchasing process. Two years into the program, the city produced a formal report evaluating the program that discussed the lessons learned and successes achieved. Based on this evaluation, Santa Monica believes that it has improved the cleaning service it provides by expanding the training of custodial staff and through the use of alternative cleaning products. As proof of the program's success, the city recently received a letter from a business district group praising the custodial care of their area.

According to Eddie Greenberg, Maintenance Crew Leader for the Promenade District, "The results are really fantastic...Everybody seems to be pleased—the public [and] the employees, because they are not exposed to toxics...The people who worked on cleaning elevators used to use an aerosol spray. If the elevator closed and went up a few floors [unexpectedly, after spraying], when it opened and they walked out, they would feel their heads spinning. With these [alternative products], it doesn't happen. We notice a difference." Overall, he notes, "We're a lot healthier."

Eddie Greenberg also provided the following specific example of how well the alternative cleaning products work. "The Promenade District is about three blocks of [waterfront] retail businesses [and] residences. We use large scrubbing machines with the new cleaning products. [The new products are] not only equal [to traditional products, they are] even better. There's a sheen on the sidewalks. The merchants, and the people that are here, they like what they see."

Fleet Maintenance

Santa Monica's Fleet Maintenance Division maintains 67.5 percent (585) of all city vehicles including parks and recreation, street maintenance, and refuse vehicles. Passenger sedans, light-duty trucks, long-haul tractors, and specialty equipment are among the many different types of vehicles maintained by the Fleet Maintenance Division. Excluded from its efforts are Police Department, Harbor Division, Fire Department, and Transportation Department vehicles, which are maintained by other city divisions. In addition to maintaining the city's existing vehicles, the Fleet Maintenance Division runs a Vehicle Management Program, which funds and schedules the replacement of vehicles. The Fleet Maintenance Division purchases less toxic or recycled products for its vehicles as well as vehicles that are powered by the alternative fuels compressed natural gas (CNG), electricity, and propane.

The purchasing of fleet maintenance products, such as antifreeze, degreasers, parts washers, and re-refined motor oil, follows a different process from that used for cleaning products. While cleaning products are purchased with a citywide formal bid, fleet maintenance products are purchased on a product-by-product basis. Since fleet maintenance products vary greatly in terms of volume purchased, frequency of use, and cost, this product-by-product approach is necessary. For example, Santa Monica purchases motor oil, a frequently used product that can be purchased in large volumes, using a citywide bid. Brake cleaner, by contrast, is a lower volume, less frequently used product that is purchased in small amounts as needed.

While cleaning products were evaluated using multiple environmental and human health criteria, some fleet maintenance products are judged on only a single environmental attribute. For example, Santa Monica's research showed that antifreeze made with propylene glycol was less toxic than antifreeze made with the more traditional ethylene glycol. Hence, the city decided to switch to purchasing only propyleneglycol antifreeze.

Similarly, Santa Monica used a single environmental criterion—percentage of rerefined content—to evaluate motor oil. In addition to the environmental benefits of re-refined motor oil, Santa Monica achieved a significant cost savings by switching to this alternative product. The city estimates that the re-refined motor oil it currently purchases costs 25 percent less than virgin motor oil.

The Players: How Fleet Maintenance Products Are Purchased

- The Environmental Programs Division and the fleet manager conduct research and draft specifications.
- The city's **buyers** stock high-volume, frequently used products, such as motor oil, at the ware-house and procure other products valued at more than \$1,000. They use specifications pro-

vided by the fleet manager or the Environmental Programs Division.

- Two **storekeepers** stock a parts shop, obtaining goods from the buyers or on their own in the form of small purchases (under \$1,000).
- **Individuals** obtain products from the warehouse or the storekeepers.

Santa Monica's Successes With Fleet Maintenance Products

- All 585 vehicles maintained by the Fleet Maintenance Division use re-refined motor oil, which costs the city up to 25 percent less than virgin motor oil.
- The Fleet Maintenance Division uses propylene-glycol antifreeze in 100 percent of fleet vehicles.
- More than 50 percent (300) of the fleet currently has retread tires. The city has used retread tires on its vehicles for more than 20 years.
- The Fleet Maintenance Division also purchases less toxic, water-based brake cleaners and parts washers for all its vehicles.
- Of 585 vehicles, roughly 20 percent are powered by alternative fuels including CNG, electricity, or propane.

The Fleet Maintenance Division has been proactive in purchasing alternative products for its vehicles; 100 percent of its vehicles use re-refined motor oil and propylene-glycol antifreeze. Other city divisions have not yet begun purchasing these alternative products. The Police and Fire Departments cite concerns about the performance of alternative products during emergency situations. The Fleet Maintenance Division, however, has found that these products perform as well as or better than their traditional counterparts. Ralph Merced, Fleet Manager, notes that in the 3 years since they began using alternative products, "we have never had an engine or mechanical failure" associated with the use of propylene-glycol antifreeze or rerefined motor oil.

For each alternative fleet maintenance product purchased, Santa Monica conducted a pilot program. When the city began using re-refined motor oil, it tested the product in half the fleet (approximately 300 vehicles) before purchasing the alternative product for the entire fleet. Similarly, propylene-glycol antifreeze was initially tested in approximately 50 vehicles. The entire fleet now uses this alternative product. Another alternative product that Santa Monica pilot-tested is retread tires, which are currently used in more than 50 percent (300 vehicles) of the city's fleet.

As was the case with cleaning products, Santa Monica found that this pilot phase was an important step in the process of switching to alternative fleet maintenance products. Not only did the pilot tests help the city ascertain that the alternative products performed as well as traditional products, but they also helped overcome the skepticism of some of the fleet maintenance staff. Staff were able to see for themselves that the alternative products were as effective as the traditional products they were accustomed to using. In addition, staff appreciated being included in the decisionmaking process; their feedback was solicited and considered before decisions were made on which products to buy.

The Fleet Maintenance Division also purchases environmental vehicles powered by alternative fuels including CNG, electricity, or propane. One of the Sustainable City Program's goals is to have 75 percent of the Fleet Maintenance Division's fleet powered by alternative fuels by 2000. Forty percent of the city's fleet of vehicles are currently past their recommended replacement point, and the city hopes to replace them with alternative-fuel vehicles. Of 585 vehicles, roughly 20 percent (130) are currently powered by alternative fuels. Of these, 75 vehicles are powered by CNG, 9 by electricity, and the remaining 46 by propane.

Cost, however, is a definite factor in the purchase of alternative fuel vehicles. The city estimates such vehicles cost 15 to 30 percent more than their gasoline- or diesel-powered counterparts. In fact, for the CNG vehicles the city plans to purchase over the next few years, it estimates the additional up-front cost will be \$400,000 to \$500,000. While the initial cost is higher, many alternative-fuel vehicles cost less over the long term. Lower life-cycle costs result from cleaner burning engines and cheaper fuel. For example, a sedan powered by CNG might cost 15 percent more initially than its gasoline-powered counterpart. The fuel for this sedan, however, costs 35 to 45 percent less per gallon, with gasoline costing \$0.90 to \$1 per gallon and CNG costing \$0.50 to \$0.60 per gallon. (Santa Monica owns its own fueling station, which helps it achieve these cost savings.) Because CNG is cleaner burning than gasoline, CNG engines require less frequent routine maintenance, are less likely to break down, and are projected to last longer. In addition, motor oil has to be changed less frequently, saving the city money on oil, oil filters, and recycling of used oil.

Integrated Pest Management

Santa Monica's environmental goal for pest control was to reduce the risks associated with the use of chemical pesticides, as well as the amount of toxic pesticides used, in order to safeguard both the environment and the health of city workers. This goal required a different purchasing process than that used for either cleaning products or fleet maintenance products, since the city was purchasing a service. In the past, the city's primary method of controlling pests, including roaches, ants, and rats, was to hire contractors who would regularly spray pesticides in and around city buildings. To safeguard human health and the environment, Santa Monica's TUR Program adopted an integrated pest management (IPM) system. Santa Monica defines IPM as:

"a process for achieving long term, environmentally sound pest control through the use of a wide variety of technical and management strategies. Control techniques include structural modifications and procedural modifications that reduce food, water, harborage, access, and environmental conditions that are favored by pests. Management strategies include education, training, and promotion of behavioral practices that are important in the IPM process."

IPM management strategies also include monitoring, baits and traps, and, as a last resort, pesticide application to cracks and crevices.

The Players: How IPM Services Are Purchased

- The Environmental Programs Division evaluates bids and recommends one contractor for the entire city.
- The City Council approves this recommendation.
- **City staff** contact the **pest manager** for their building when pests appear. The pest manager, usually also the building's facility manager, is a

city staff member who has received additional training in IPM.

- **Pest managers** call the **pest control contractor** directly and work with them.
- The **IPM coordinator** implements ongoing training efforts and provides oversight to the pest control contractor.

Research

Since Santa Monica had no experience with IPM, it decided that baseline research was necessary. The Environmental Programs Division assembled a team of experts that included representatives from universities, government, a nonprofit organization, and an IPM contractor. This team provided the city with specific information on pest control techniques including their relative efficacy and toxicity. It also provided advice on how to work with IPM contractors and on the kind of training that would be important for city staff. In addition, the city solicited input from the facilities managers of city buildings, who provided lists of the pests that were of greatest concern and practical suggestions for implementing the program. Based on this information, the city drafted its Request for Qualifications (RFQ), RFP, and specifications for IPM contractors.

Drafting Specifications and Working With Vendors

Santa Monica's RFQ for IPM required pest control contractors to provide the city with detailed information that included the contractor's experience with IPM programs and its health and safety programs for employees and site occupants. A selection panel of city staff and members of the IPM advisory panel reviewed the Statements of Qualifications sent in by six vendors in response to the RFQ and selected two finalists. The other four vendors were not selected as finalists primarily because their responses to the city's questions were incomplete. RFPs were mailed out to the finalists, who were also invited to attend a site tour of the city buildings they would be servicing before submitting their bids. This face-to-face meeting with vendors provided Santa Monica with the opportunity to answer vendor questions and to emphasize the importance of providing complete, accurate information with their bids.

The RFP required vendors to rank pest management options "in order of lowest risk to highest risk or group in categories of 'low,' 'medium,' and 'high' risk to human health and the environment." The city also required vendors to provide detailed descriptions of their monitoring and quality control programs as well as a suggested format for training city staff in ways to prevent pests. The detailed RFP, drafted based on Santa Monica's up-front research, helped the city choose between the two finalists because the responses showed not only price information but also the contractors' depth of technical expertise.

Santa Monica's specifications for IPM contractors include criteria designed to safeguard human health and the environment such as using nonpesticide methods of control wherever possible. For example, portable vacuums are to be used instead of sprays for initial clean-outs of cockroach infestations. Pest control in all city buildings is supervised by a member of the Environmental Programs Division staff who is appointed as the city's IPM coordinator. The contractor is required to receive approval from the IPM coordinator before applying or storing any pesticides at city properties. Specific pesticides also must be approved by the IPM coordinator. In addition, the city's IPM contract requires "risk reduction," stating that "the Contractor shall employ products and techniques that have been determined by the city, in consultation with other appropriate entities, to pose the least risk to people, workers, and

"I was one of the diehards who thought you had to spray [to control pests]. I used my office as the testing grounds, trapping ants. I thought, 'How can you trap ants?' But, within 3 days they were gone, and they haven't been around since."

> —Randall Martinez, Trades Supervisor and pest manager for city hall and yards

Santa Monica's Successes With IPM

- Achieved excellent control of pests, including rats, mice, cockroaches, and ants, in and around all city-owned buildings and structures.
- Reduced number of complaints received by facilities managers.
- Reduced the hazard associated with pesticide applications by eliminating the use of spray pesticides in all cases except to control termites in wall and ceiling voids.
- Received excellent service from pest control contractor.

- Reduced the cost of pest control services by 30 percent.
- Educated staff in how to prevent pests.
- Increased awareness of pest identification by custodians and other maintenance workers to catch pest problems in early stages.
- Created a cadre of individuals who can take IPM lessons back to their homes and communities.

the environment. Additionally, the most precise application technique and minimum quantity of pesticide necessary to achieve control shall be applied."

Training

Some of the most important efforts to control pests have been made, not by the IPM contractors, but by the city staff. Santa Monica's city manager sent a memo informing all staff that "successful implementation of IPM requires that every city employee play a role in the control and eradication of pests in their office space (such as proper food storage and housekeeping habits); therefore all city staff will receive some level of training over the next few months." Training for most staff was done at existing department and division staff meetings and included information on basic pest identification and habits. The city also arranged for select city staff to receive additional, more comprehensive training. These city facilities managers, now also referred to as "pest managers," are the point of contact between employees and the pest control contractor.

Pilot Program and Evaluation

The IPM pilot project lasted a year and ended in October 1997. Santa Monica's evaluation of the program, which included surveying the city's pest managers, revealed many successes. Several of these pest managers spoke very favorably of the IPM approach. Cindy Tomlinson, Senior Administrative Analyst for the Santa Monica Fire Department, remarked that she used to "call for spraying [and] normally the problem would return." She said it "seems [IPM] methods are more effective," and noted that they had experienced "less trouble with pests returning." She also found the IPM contractor "very responsive to our needs." Joe McGrath, Park Superintendent, said, "So far, [the contractor's] approach is working great." He has had "few call backs" to say that pests have returned and no calls from people asking what was being sprayed. He said he used to get a couple of calls a year about spraying.

Randall Martinez, Trades Supervisor and pest manager for city hall and yards, said the IPM approach is "far better than [what] we had before...I get much, much fewer complaints [about pests.] I used to get a couple a week. I haven't had a call in over a month." He added, " I was one of the diehards who thought you had to spray [to control pests]. I used my office as the testing grounds, trapping ants. I thought, 'How can you trap ants?' But, within 3 days they were gone, and they haven't been around since." He's now convinced that the IPM approach is "excellent." Martinez and other pest managers also gave the IPM contractor high marks for responsiveness, good communication, and effectiveness.

Recycled Products

Santa Monica purchases a wide range of recycled products including office paper, janitorial paper products, aggregate for street resurfacing, plastic semiautomated refuse carts, re-refined motor oil, paint, retread tires, laser printer cartridges, and trash can liners. So far, the city does not have an overarching set of policies governing the purchasing of recycled products. As a result, purchasing decisions are made on a product-by-product basis. Purchasers attempt to find products with the highest amount of total recovered materials content and postconsumer content at a cost that "reasonably approximates" the price of virgin products. This reasonable approximation approach is an informal policy and does not constitute a price preference for recycled products. In general, recycled-content products purchased by the city cost no more than 1 to 2 percent more than virgin products.

The Players: How Recycled-Content Products Are Purchased

- The Environmental Programs Division conducts research and provides information about recycled-content products.
- The **buyers** stock high-volume, frequently used products such as recycled-content office paper

at the warehouse and purchase other products costing more than \$1,000 for individual departments. They are aware of the city's informal policies for recycled-content products. anta Monica describes its environmental purchasing program as an ongoing "work in progress." It is constantly evaluating both the products purchased and the purchasing process to identify areas for potential improvement. The following are some of the lessons Santa Monica has learned along the way:

Lessons Learned

- Work with existing purchasing procedures. Santa Monica did not wait to change existing purchasing policies in order to effect environmental purchasing. Instead, with each product category, the city used existing procedures. Some environmental products are purchased using a formal, citywide bid, while others are requested by individual city departments. The city's warehouse stocks many high-volume, frequently used environmental products, while others are purchased on an as-needed basis. For each purchasing procedure used, the Environmental Programs Division supplies information and, in some cases, the actual specifications used.
- Look for ways to improve purchasing policies and systems. Santa Monica also looks for ways to improve purchasing policies and systems (e.g., computerization) in order to facilitate environmental purchasing. After evaluating the purchasing process for alternative cleaning products, the city decided to revise its specifications to simplify them for future use. The city also is investigating adding language to its municipal code that will ensure that environmental purchasing continues to be a high priority for the city and make it easier to accomplish. In addition, the city is expanding its computerized tracking of purchases.
- Approach environmental purchasing one step at a time. As part of the TUR Program, the city had many goals for environmental purchasing that included adopting new purchasing policies for a wide range of products. The city started, however, with a single group of products: alternative cleaning products. When that program was well established, the city turned its attention to IPM. By focusing on one product category at a time, the city was able to implement a more comprehensive, workable purchasing process. In addition, each time the city buys a new product, it tests the product using a pilot program. Only after the pilot stage has been successfully completed and evaluated does the city buy the product on a large scale.
- Address the entire purchasing process as a system, rather than focusing on just the product. Santa Monica's approach to purchasing starts with up-front research by appropriate individuals and then proceeds to drafting specifications, testing products, training end-users, and evaluating both the products purchased and the purchasing process. By focusing on the entire process rather than individual products, Santa Monica is able to realize its environmental purchasing goals.
- Create partnerships between environmental and procurement staff. Santa Monica's Environmental Programs Division and Purchasing Division combine their expertise and share the workload of environmental purchasing. The Environmental Programs Division's research, advice, and specifications assist buyers with the task of purchasing products and services deemed safer for the envi-

ronment and human health. The buyers, in turn, help Santa Monica achieve its purchasing goals by screening requests from other city divisions. The Environmental Programs Division also provides advice to procurement staff in city divisions preparing requests for the Purchasing Division or making small purchases.

- Enlist the support of both high-level officials and end-users. The support of Santa Monica's city manager, City Council, and department heads is invaluable to the city's environmental purchasing efforts. The insight and support of the end-users for alternative products and services also are instrumental to the city's success. Santa Monica recognizes the importance of, and actively solicits, this kind of broad-based support for environmental purchasing.
- **Recognize and utilize the specific expertise of end-users.** Santa Monica relies on its end-users to provide essential feedback about a product's performance. When a particular end-user is recognized by his peers as having expertise with a specific product category, Santa Monica finds soliciting that end-user's comments to be particularly helpful. For example, to test custodial floor care products, Santa Monica relied on the city's leading floor care expert, a member of the city's custodial staff.
- Keep staff with purchasing power aware of policy changes. A number of individuals making small purchases (under \$1,000) continued to buy traditional, more toxic products even after Santa Monica had officially changed its policies. Environmental Programs Division staff read through all purchase orders for chemical products to verify whether the new policy was being implemented. If the product purchased did not meet the city's new criteria, Environmental Programs Division staff informed the purchaser and the department head. The department heads are supportive of the program and help ensure implementation of the policy. When individual staff were asked why they did not follow policy, they provided valuable feedback that helped Santa Monica improve its program.
- Expect a certain amount of resistance to change and skepticism about alternative products. Initially, many end-users were skeptical about the efficacy of alternative products or resistant to changing established practices. Santa Monica found that including end-users in all phases of decision-making and having pilot programs helped it meet this challenge.
- Investigate third-party certification and other ways to verify vendor information. Santa Monica's efforts to evaluate environmental products were made more challenging because it could not always obtain complete, accurate information from vendors. In addition, city staff lack the time and expertise to verify manufacturers' claims about their products. The city investigated Green Seal and other certification programs but has not found an organization that provides the comprehensive information it is seeking. Deborah Raphael noted that third-party certification, either by the government or by a nonprofit organization, would help Santa Monica's efforts. She also expressed interest in finding other potential ways to ensure that vendors provide complete, accurate information.
- Train staff in how best to use alternative products. Santa Monica's research revealed that many alternative products, such as cleaning products, require differ-

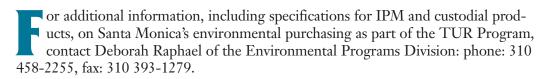
ent methods of application. Santa Monica found that training end-users in how best to use the alternative cleaning products increased the effectiveness of the products and boosted approval ratings for the new products. In addition, staff training contributed to efficient use of the products, which helped save the city money. IPM is another area in which Santa Monica sees the benefit of training end-users. Training city staff in how to prevent pests is a cornerstone of this effort, and staff's implementation of these procedures helps reduce the need for treating pests.

• Track specific purchasing information by computer, if possible. Santa Monica's warehouse tracks purchases according to product category. This helped the Environmental Programs Division evaluate the success of the city's switch to alternative cleaning products. Santa Monica also tracks purchasing information for small purchases (under \$1,000). These quick purchase orders are entered in a newly established database, and quarterly reports are generated. The city also can access specific information on citywide formal bids of more than \$25,000. As noted above, however, the city currently has no way to track specific purchasing information for purchases between \$1,000 and \$25,000. The custom computer system recently ordered by the city will track this information and enable the city to more easily measure the success of its environmental purchasing efforts.

Next Steps and Plans for the Future

anta Monica plans to build on its success by expanding and improving environmental purchasing. Major goals for the next few years include:

- Improving and expanding computerized tracking. Santa Monica tracks specific procurement information, such as product category, for warehouse purchases and citywide bids (used for amounts more than \$25,000). In addition, using a recently established database, the city tracks small (under \$1,000) purchases. For purchases ranging from \$1,000 to \$25,000, however, Santa Monica currently cannot track product category information. The city has ordered a custom computer system that will automatically track purchases and use commodity codes to simplify the tracking process. The city hopes to have this computer system installed by April 1998. This computer system also will track certain environmental attributes such as percentage of recycled content.
- Expanding the TUR Program to include herbicides. Having successfully reduced its use of pesticides through the structural IPM program, the city is investigating ways to reduce chemical applications to control weeds on city property. A panel of experts from the County Agriculture Commissioner's Office and the University of California Cooperative Extension Service surveyed the use of herbicides on city property and identified opportunities to reduce their use. Training on alternative weed control techniques will be designed and offered to both city and contractor landscape maintenance staff. A herbicide-free pilot site is already underway in one section of the city.
- **Conducting outreach to businesses and residents.** Now that Santa Monica has gained experience with environmental purchasing, it is planning to share what it has learned with businesses and the general public. Taking information it has gathered in the last few years, it will work to encourage local businesses and residences to make similar changes in their purchasing. One example of the city's outreach to the public is a bimonthly bulletin included with utility bills. The first issue of this bulletin informed residents about ways to reduce their use of hazardous household products.
- Finding ways to institutionalize environmental purchasing. Santa Monica recognizes that among the reasons for the city's success in environmental purchasing are the talent and dedication of current city staff and the support of the current administration. The city is searching for ways to document and institutionalize environmental procurement so that it endures beyond the tenure of those currently involved in it.



Resources

For copies of *The Sustainable City Progress Report*, contact Dean Kubani, Environmental Analyst: phone: 310 458-2227, e-mail: <dean-kubani@ci.santamonica.ca.us>, or visit the web site <www.ci.santa-monica.ca.us/environment/policy>.

Information about the city of Santa Monica also can be obtained from the web site <www.ci.santa-monica.ca.us>.



We want to hear from you! Please tell us about your environmentally preferable purchasing activities and efforts. We are collecting and sharing information, tools, and hints about what works and what doesn't, as environmentally preferable purchasing evolves and expands. Please contact the EPP program by e-mail, regular mail, or fax:

> Eun-Sook Goidel Environmentally Preferable Purchasing Program U.S. Environmental Protection Agency 401 M Street, SW. (7409) Washington, DC 20460

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