



**NON-TOXIC DRY CLEANING INCENTIVE PROGRAM**

**GRANT GUIDELINES FOR THE  
CALIFORNIA DRY CLEANING INDUSTRY**

**TRANSPORTATION AND TOXICS DIVISION  
EMISSION ASSESSMENT BRANCH**

**State of California  
AIR RESOURCES BOARD**

**NON-TOXIC DRY CLEANING INCENTIVE PROGRAM**

**GRANT GUIDELINES FOR THE  
CALIFORNIA DRY CLEANING INDUSTRY**

California Air Resources Board  
1001 I Street  
Sacramento, California 95814

Mention of trade names or commercial products does not constitute endorsement or recommendation by the Air Resources Board for use.

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**I. INTRODUCTION**

The California State Legislature enacted Assembly Bill (AB) 998, which establishes the Non-Toxic Dry Cleaning Incentive Program. The objective of this program is to provide financial assistance to California dry cleaners who replace their existing perchloroethylene (perc) dry cleaning systems with non-toxic and non-smog forming systems such as water-based and carbon dioxide (CO<sub>2</sub>) cleaning systems.

AB 998 requires the Air Resources Board (ARB) to assess a three-dollar (\$3) per gallon fee on the importers of perc for dry cleaning operations beginning January 1, 2004. This fee will increase one dollar (\$1) per gallon per year from 2005 through 2013. As required by the legislation, the majority of these funds will be used to establish a grant program to provide \$10,000 grants to assist dry cleaners in switching to non-toxic and non-smog forming cleaning technologies. The balance of funds will be used to establish a demonstration program to showcase these technologies statewide. ARB is to ensure that at least 50 percent of the grant funds provided are awarded to qualifying dry cleaners in environmental justice communities of minority populations or low-income populations.

This document discusses the provisions of the grant program. The demonstration program criteria are provided in a separate document titled "*Non-Toxic Dry Cleaning Incentive Program Demonstration Guidelines for the California Dry Cleaning Industry.*" Please contact ARB if you are interested in receiving this packet or visit our website at [www.arb.ca.gov/toxics/dryclean/ab998.htm](http://www.arb.ca.gov/toxics/dryclean/ab998.htm) to download the document.

**II. ELIGIBILITY CRITERIA**

To be eligible for a grant, an applicant must have a dry cleaning facility located in the State of California. In the event an applicant owns more than one facility, a separate application must be submitted for each facility. Only one application per facility is permitted per application period. The applicant must be currently using a perc dry cleaning system or have switched to a qualifying non-perc technology on or after January 1, 2004 (documentation required). If a perc machine was replaced with a

qualifying non-toxic and non-smog forming cleaning system prior to January 1, 2004, then the applicant is not eligible for a grant. Additionally, the applicant must have no outstanding local air district permit fees or be currently involved in any local air district or ARB enforcement action. **Beginning January 2007 and thereafter, the ARB staff will be accepting and processing grant applications on a continuous basis and not just once a year.** Please send completed grant application to:

**TTD Dry Cleaning Incentive Program  
California Air Resources Board  
P.O. Box 2815  
Sacramento, California 95812**

### **III. QUALIFYING TECHNOLOGIES**

Only the purchase of new non-toxic and non-smog forming dry cleaning systems qualify for grants under this program. The following technologies satisfy this requirement:

- Water-based cleaning systems; and
- Carbon dioxide (CO<sub>2</sub>) cleaning systems

Below is a brief description of the qualifying technologies. **Dry cleaners will need to carefully study these technologies to ensure the selection of a system that meets the needs of their businesses.** ARB encourages all dry cleaners to contact the manufacturers and distributors for more detailed information on these technologies (see Section V for a list of contacts).

#### **A. Water-based Cleaning Systems**

Currently, there are four types of water-based cleaning technologies available to California dry cleaners. Those technologies are: 1) professional wet cleaning systems, 2) the Green Jet<sup>®</sup> cleaning system, 3) cold water cleaning systems, and 4) Green Dry to Dry (D2D).

##### **1. Professional Wet Cleaning Systems**

The professional wet cleaning system is an alternative to dry cleaning for fabrics labeled “dry clean only” and employ the use of specialized computer controlled washers and dryers. The immersion-based washers use a frequency-controlled motor to control the rotation of the wash drum which produces a gentle wash action and smoother acceleration and deceleration. The wash program software can determine the appropriate combination of time, water level, water temperature, extraction, and drum rotation. Washers are also designed to mix water with cleaning agents prior to entering the cleaning drum. The dryers used in professional wet cleaning are based on humidity and are able to end the cycle when the desired humidity level in the garments has been achieved. Temperature, drying time, and direction of drum rotation can also be

programmed. Finishing equipment includes pressing and tensioning machines. When selecting a professional wet cleaning system under this grant program, the tensioning pants topper and form finisher are required.

## 2. Green Jet® Cleaning System

The Green Jet® cleaning system cleans and dries garments in a single computerized unit. The cleaning process involves using a mist of water and detergent to clean the garments. The machine is designed to receive a full 45 pound load of garments. It then dehydrates the fabric to remove humidity to reduce surface tension, in order to allow the mechanical action and air jets pulsating to dislodge and remove the non-soluble soil from the garments. The soil is then collected in a lint chamber. The next step in the cycle is to inject a pre-determined amount of water-based cleaning solution through specially designed and placed air jet nozzles to re-hydrate the fabric. After about a pint of solution has been introduced to the load to remove soluble soil, heavy felt pads attached to the ribs and the cylinder absorb the soluble soil. This process is appropriate for cleaning garments that are lightly soiled. After the cleaning process, the unit goes into a conventional dry cycle and then a cool-down cycle.

## 3. Cold Water Cleaning Systems

Cold water cleaning systems are similar to traditional wet cleaning systems but incorporate other features. Cold water cleaning systems use chilled water and are designed to minimize shrinkage. The system consists of a washer and a dryer. The washer uses a computer to control the rotation of the cleaning drum in order to minimize agitation while cleaning the garments. The garments that are commonly dry cleaned are processed in icy water and are dried in cold air. The washer is fitted with a refrigerated condenser so it can operate with the water at lower temperature. In the dryer, the garments are partially dried in heated air and cold air, which is generated with a compressor. The garments can be fully dried in the dryer using longer drying cycle.

## 4. Green D2D System

The Green D2D System is both a washer and dryer. It cleans and dries garments in a single unit. It uses an advanced high heat moisture control system and steam to remove dirt, stains, allergens, and odors. The machine is designed to wash and dry a 40 pound garment load in 40 minutes. This cleaning technology consumes about 30 percent less water than the standard wet cleaning machines and uses only 23 amps of energy. It requires no cooling tower, chiller, or tensioning equipment.

## B. Carbon Dioxide (CO<sub>2</sub>) Cleaning System

The CO<sub>2</sub> process is a carbon dioxide-based garment cleaning process that has been developed for use by commercial and retail dry cleaners. It is a high pressure cleaning system utilizing liquid CO<sub>2</sub> and a cleaning solvent. CO<sub>2</sub> is a non-flammable, non-toxic, colorless, tasteless, odorless naturally-occurring gas that, when subjected to pressure, becomes a liquid solvent. The CO<sub>2</sub> used in the garment cleaning process is an industrial by-product from existing operations, such as production of ethanol by fermentation and anhydrous ammonia (fertilizer) production. The CO<sub>2</sub> cleaning process does not produce any new CO<sub>2</sub> and, thus, does not contribute to global warming. The system is closed-loop, with a cleaning chamber, storage unit, distillation and lint trap.

As a courtesy, the following table may be helpful in identifying some of the key differences among the qualified technologies. **Again, dry cleaners will need to carefully study these technologies to ensure the selection of a system that meets the needs of their businesses.**

**Table 1. Summary of Qualified Technologies<sup>1</sup>**

<b>Cleaning System</b>	<b>Comments</b>
Professional Wet Cleaning	<ul style="list-style-type: none"> <li>• Process can be labor intensive.</li> <li>• Training recommended to improve understanding of process and help reduce labor costs.</li> <li>• Tensioning equipment required to help minimize shrinkage.<sup>2</sup></li> </ul>
Green Jet	<ul style="list-style-type: none"> <li>• Non-immersion system.</li> <li>• More suitable for lightly-soiled garments but not suitable for heavily-soiled garments.</li> <li>• Tensioning equipment may be purchased at dry cleaners discretion.</li> </ul>
Cold Water Cleaning	<ul style="list-style-type: none"> <li>• Longer drying cycle when compared to Perc-based systems.</li> <li>• Tensioning equipment may be purchased at dry cleaners discretion.</li> </ul>
Green D2D	<ul style="list-style-type: none"> <li>• Non-immersion system.</li> <li>• Training is provided with the purchase of equipment.</li> <li>• Tensioning equipment is not needed for this process.</li> </ul>
Carbon Dioxide (CO <sub>2</sub> )	<ul style="list-style-type: none"> <li>• Longer drying cycle when compared to Perc-based systems.</li> <li>• Some issues with aggressiveness of available detergents.</li> </ul>

1. ARB has not verified or certified the cleaning performance of these systems.

2. Tensioning equipment must be purchased with professional wet cleaning systems in order to be eligible for a grant.

#### IV. GRANT AWARD PROCESS

The grant award process is comprised of two components: 1) the grant application, and 2) the supplemental information form. Included in this packet is the grant application which needs to be completed and returned to ARB when an applicant is ready to submit the grant application. Once you are pre-qualified, you will receive a conditional grant award letter with a supplemental information form. At this point, you will need to procure a qualified system, have it installed, and have your existing perc machine removed. The supplemental form would then need to be completed and returned to ARB within 90 days of the receipt of the supplemental form and procurement of new equipment, along with documentation indicating the purchase of a new system and the removal of the perc system. Applicants who do not provide all of the required documentation or a signed and dated grant application/supplemental information form may be disqualified from receiving a grant. **Grant award checks will not be issued until all documentation and a signed supplemental information form have been received.**

Please be aware that, in order to receive a grant, all applicants must agree to the following conditions:

1. If the qualifying cleaning system is leased, the applicant is required to exercise the option to purchase the cleaning system under the lease;
2. The applicant agrees not to sell the cleaning system purchased with grant funds unless it is being sold as a physical part of the facility;
3. If facility ownership changes after receiving the grant, the new owner must carry the grant award obligations and maintain all the provisions the prior owner agreed to in accordance to ARB's grant guidelines;
4. After installation of the cleaning system, if the applicant wants to purchase an additional cleaning system, the applicant must only purchase a qualifying non-toxic and non-smog forming system; and
5. For a four-year period after receiving the grant, the applicant agrees to respond to any ARB surveys regarding experiences with using the new cleaning system.

All applications will be pre-screened for eligibility (see Section II). Grants will be awarded on a first-come, first-served basis with priority given to facilities that are located in environmental justice communities of minority or low-income populations. In the event a grant application is not approved, ARB will send a letter to the applicant indicating the reason for disapproval. All grant award decisions are final.



## V. USEFUL CONTACTS

When looking for additional information regarding the qualifying technologies under this grant program, dry cleaners may find it useful to first contact their current equipment suppliers. For your information, included in this packet is a limited list of vendors and suppliers of qualifying equipment. **Please note that this information is provided as a courtesy and does not constitute an endorsement or recommendation. ARB has not verified or certified the cleaning performance of these systems.**

Should you have any questions, please contact Ms. Mei Fong at (916) 324-2570 or send your questions via e mail to [Mei.Fong@arb.ca.gov](mailto:Mei.Fong@arb.ca.gov). Additionally, you may visit our website at [www.arb.ca.gov/toxics/dryclean/ab998.htm](http://www.arb.ca.gov/toxics/dryclean/ab998.htm).