# UV/EB Gains Regulatory Recognition

By Rita Loof

The past few years have seen strong growth for UV/EB technology, not only in the industrial sector but also in the regulatory arena. As the regulatory approach takes a "multi-pollutant" perspective, regulators look for processes that do not trade one pollutant for another. In this light, UV/EB becomes the technology of choice because there are no secondary air pollutants (as in with incinerators) or hazardous waste generation (as in with some waterborne formulations). In their regulations, government agencies are beginning to recognize the advantages of source reduction as compared to pollution control. The fact that UV/EB has been written into various air regulations attests to the emerging importance of pollution prevention.

## On the Federal Side

### Lowest Achievable Emission Rate (LAER)

The Environmental Protection Agency (EPA) has made several decisions, which confirm the environmental benefits of UV/EB materials. LAER applies to new, modified or relocated major sources nationwide. Under this program, thousands of projects must use technologies with the lowest emissions. The EPA lists UV/EB products as LAER for dozens of industrial processes, such as wood coatings and printing, in their federal Clearinghouse *(www.epa.gov)*. The LAER designation means that UV/EB has been "achieved-in-practice" and is a viable method to achieve the lowest emission levels.

### The EPA Report to the U.S. Senate

After conducting studies on UV/EB processes, past EPA administrator Carol Browner testified to a Senate committee on the environment. "Ultraviolet light-cured coatings…not only reduced emissions to the EPA-required levels, but **essentially eliminated emissions altogether**." Ms. Browner pointed out that UV/EB processes were a viable solution to air quality problems.

### Title V Federal Operating Permit Program

UV/EB technology was officially incorporated into the South Coast Air Quality Management District's (SCAQMD) Title V program. SCAQMD adopted a new rule, which exempts companies from having to obtain a facility permit under the Title V program. The new South Coast rule (Rule 3008) defines UV/EB operations, using less than 19,184 gallons per year of materials (with a VOC content of less than 50 grams/liter), as "De Minimis." According to the SCAQMD rule staff report, the emissions related to the UV/EB operations are considered "too small to be required to file reports." In addition, UV/EB also appears under the list of "Alternative Operational Limits." These limits will serve as a guideline for companies, which cannot calculate their actual emissions and allow them to be exempt from Title V requirements.

Given the added monitoring, recordkeeping and public noticing requirements under the Title V program, the exemption provides current and potential users of UV/EB with a significant regulatory benefit.

## On the Local Side

### SCAQMD

Due to its air quality problems, SCAQMD is constantly adopting new air regulations. Every three years the SCAQMD submits a plan on how they propose to achieve their air quality goals. In this plan, the District included UV/EB as a means to improve air quality. UV/EB is classified as a "control measure" much like a control device. SCAQMD determined that UV/EB materials "**generate zero or very low VOC emissions**."

### Clean Air Award

RadTech received a certificate of honorable mention from the SCAQMD in the category of "Advancement of Air Pollution Technology" in recognition of "exemplary leadership, innovation and foresight." This is a great compliment to the UV/EB industry, coming from the most stringent air pollution control district in the country.

### No Need for Permits

In order to help UV/EB customers reduce their regulatory burden, RadTech requested and obtained an exemp-

tion from permitting from the SCAQMD. The exemption applies to UV/EB operations with a VOC content of 50 grams/liter or less, which use solvents with VOC contents of 50 grams/liter or less, regardless of usage. Materials with a higher VOC content are exempt, if the usage is less than six gallons per day. On September 11, 1998, the District exempted UV/EB equipment from permit under District Rule 219. Staff classified it as **"equipment with negligible emissions"** and cited this classification as the reason for the exemption.

**Less Recordkeeping**

At one point, daily records were required even for low VOC substances such as UV/EB. The SCAQMD now allows monthly rather than daily recordkeeping for UV/EB materials based on their negligible emissions.

**Adhesives Rule**

UV/EB materials are also exempt under the SCAQMD Adhesives Rule (Rule 1168). The exemption means that users of UV/EB are not subject to any VOC limits specified in the rule. In their staff report, the District devoted a section to discuss UV/EB technology. Staff reported that UV/EB adhesives "provide strong, durable bonds to metals, ceramics, many plastics and most rubbers, as well as a resistance to temperature swings and chemical exposure."

**Best Available Control Technology (BACT)**

BACT is the local equivalent to federal LAER. Under the SCAQMD guidelines, UV/EB materials are considered "superclean" because of their low VOC content relative to conventional solvent-based materials. They have been listed as "achieved in practice" in the SCAQMD Clearinghouse *(www.aqmd.gov)* for major sources in the categories of printing (litho, screen, flexo) and coating operations (flow coating, dip coater, roller coater and spray booth).

**Large Coatings and Solvent Rule**

A recent rule by the SCAQMD once more recognized UV/EB as an environmentally friendly alternative. The District adopted Rule 1132 to reduce VOCs from large (emitting over 20 tons per year of VOCs) coating and solvent facilities. The rule requires that the affected industries (aerospace, metal and plastics, fiberglass-reinforced plastics and wood products) reduce their emissions by 65%. In an effort to encourage pollution prevention and at the same time offer companies added compliance flexibility; the rule allows reformulation to low VOC processes such as UV/EB technology. Under this rule, UV/EB materials are considered equivalent to add-on control devices. Furthermore, companies that have already converted to UV/EB would be automatically in compliance with the rule.

**Regulations Help Disseminate Information about UV/EB**

Before a new rule is put in the books, there is usually a technical analysis involved. UV/EB appears in various local, state and federal reports. These reports are made available to the general public. Thus, a potential end-user of the technology can obtain information about UV/EB in these regulatory documents.

The regulatory benefits of UV/EB are becoming increasingly obvious. It is still performance and the bottom line that are driving the continued strong growth of the technology. ■

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