



April 25, 2024

Olivia Salmon- AM/7
Bureau of Air Management
Department of Natural Resources
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Madison, Wisconsin 53703

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Dear Ms. Salmon:

RadTech International is the trade association for the Ultraviolet/ Electron Beam/Light Emitting Diode (UV/EB/LED) industry. The organization represents over 800 members nationwide involved in a myriad of markets including semiconductor manufacturing. We are pleased to comment on Wisconsin's proposed NR 439.

Unlike conventional inks and coatings, UV/EB/LED products do not evaporate. Instead, they are specifically formulated to react to energy (light or a beam of electrons). The nature of the process is such that virtually no Volatile Organic Compounds (VOCs) are generated. The materials are generally high viscosity and thus there are no regulatory concerns with generation of particulate matter from spraying. Additionally, UV/EB/LED processes are electric and thus do not produce combustion contaminants such as NO_x, SO_x and Greenhouse Gases.

The South Coast Air Quality Management District has some of the most stringent air quality regulations in the nation. In many of its rulemakings, the agency has recognized the sustainability advantages, including energy efficiency, of ultraviolet and electron beam curing technology. SCAQMD provides incentives to companies who convert to UV/EB through exemptions from permitting and recordkeeping. The agency recognized UV/EB as Best Available Control Technology for many industry sectors and the technology has recently been included in the Statewide BACT Clearinghouse for the California Air Resources Board.

UV/EB technology meets the regulatory definition of "super-compliant" in the SCAQMD which applies to coatings with a Volatile Organic Compound (VOC) content of less than 50 grams per liter. RadTech holds a seat on the South Coast Air Quality Management Plan Advisory Committee. Our Association provides input to the agency on how to achieve clean air goals and implementation of UV/EB is one strategy which has been included in the Air Quality Management Plan. The most recent AQMP now includes UV/EB as control strategy. According

to SCAQMD findings: “These programs may also provide manufacturers with incentives to accelerate the deployment of cleaner technologies. Such an example is the use of energy-curing technologies which includes ultraviolet light (UV), electron beam (EB), heat and light emitting diode (LED) cured coatings.

The California State Senate has adopted a resolution recognizing the many benefits of ultraviolet (UV) and electron beam (EB) technologies and the contributions of RadTech. The proclamation acknowledges the “invaluable” contributions made by RadTech to the State of California and beyond, and cites the Association’s ideals of community service. It commends RadTech for its “outstanding commitment to improving the environment and economy through its programs.”

The Environmental Protection Agency has classified UV/EB technology as Lowest Achievable Emission Rate. The EPA Control Techniques Guidelines documents state: “This technology is gaining greater acceptance and, where applicable, achieves a near 100 percent reduction of VOC emissions”.

With UV/EB technology, facilities can achieve emission reductions above and beyond those required by even the most stringent of regulations. There is no need to install air pollution control devices which may emit combustion contaminants such as Nitrogen Oxides or Sulfur Oxides. The products do not contain Toxic Air Contaminants and have no secondary adverse impacts such as emissions of greenhouse gases.

Our specific comments on the rule proposal are as follows:

NR 439.01-- Applicability

While we understand the need for the rule to include the requirements of 40 CFR part 60 to part 63, we do not see a need to add to those requirements by imposing unnecessary added burdens to impacted businesses. Additional reporting requirements will not yield actual emission reductions and will, in fact, dissuade companies from investing in new processes like UV/EB/LED. The rule should not apply to companies that are reducing their emissions about and beyond DNR requirements. Thus, we suggest adding language specifying that the rule is not applicable to UV/EB/LED processes.

NR 439.02—Definitions

While the proposed rule includes definitions for various control devices (oxidizers, incinerators), it completely ignores the alternative to end-of-pipe controls. The rule should be technology neutral and include all available options for compliance. In its current form, NR 39 gives the appearance that the DNR is promoting processes that generate pollution and then employ a control device as a means to achieve compliance. We suggest the inclusion of a definition for energy curable materials as follows:

ENERGY CURABLE MATERIALS are single component reactive products that cure upon exposure to visible-light, ultraviolet light, or to an electron beam.

NR 439.03-- Reporting

UV /EB/LED processes not only meet but generally exceed expectations when it comes to Volatile Organic Compounds (VOC) emissions. Additionally, since pollution is prevented and does not have to be destroyed by incinerators, emissions of Nitrogen Oxides and Greenhouse Gases are also prevented. NR 39 should provide regulatory relief to those companies in Wisconsin that go above and beyond the DNR's rule requirements by implementing pollution prevention strategies like UV/EB/LED. The "sufficient data" language is especially problematic as it is not clear what the DNR considers "sufficient". This lack of clarity makes businesses vulnerable to enforcement action by the Department because it leaves it up to staff interpretation without any uniform guidelines. We suggest providing an exemption for UV/EB/LED technology from the reporting as well as the monitoring reports requirement of the rule. Section 2(a) should not apply to emission reductions. For example, a facility may voluntarily transition from a process that emits Hazardous Air Pollutants to a HAP free process. Although it would constitute a "change", it is a change for the better. We suggest modifying the language in Section 2(a) to:

“(a) Any changes in the nature of the source, *that result in a net increase in emissions*.....

Section 2(b) of the rule should not apply to materials that do not contain Hazardous Air Pollutants because companies using said materials would simply be reporting zeros.

NR 439.04-- Recordkeeping

The rule should recognize the excess emission reductions associated with the implementation of UV/EB/LED materials by providing relief from recordkeeping. We suggest that an exemption be provided for UV/EB/LED materials.

NR 439.06-- Methods and procedures for determining compliance with emission limitations

The Environmental Protection Agency and the South Coast Air Quality Management District have long recognized that EPA Method 24 is not suitable for thin film UV/EB/LED Materials. Thus, RadTech urges the DNR to include ASTM D7767-11 as suitable test method for UV/EB/LED products. We propose the following language:

The VOC content of thin film Energy Curable Adhesives and Sealants may be determined by manufacturers using ASTM Test Method 7767 Standard Test Method to Measure Volatiles from Radiation Curable Acrylate Monomers, Oligomers, and Blends and Thin Coatings Made from Them.

The RadTech Association looks forward to working with the Bureau of Air Management on this rulemaking and would gladly provide any additional information your staff may need.

Sincerely,

