

Louisiana State Implementation Plan Revision

VOC RACT Control Technique Guidelines

Submitted to:

EPA Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Final August 2010



BOBBY JINDAL
GOVERNOR



PEGGY M. HATCH
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
OFFICE OF THE SECRETARY

August 31, 2010

Dr. Alfredo Armendariz
Regional Administrator
U. S. EPA Region 6 (6-RA)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Re: Baton Rouge Nonattainment Area Redesignation and Maintenance Plan,
1997 8-hour Moderate SIP Revision and CTG/RACT SIP Revision
(Redesignation Package)

Dear Dr. Armendariz:

As the official designee of Governor Bobby Jindal and on behalf of the State of Louisiana, I respectfully submit this final Redesignation Package for your approval. The Baton Rouge Nonattainment Area has worked diligently toward this attainment goal.

Enclosed you will find three separate documents, all of which comprise the Redesignation Package. The first element is the 1997 8-hour Moderate Revisions SIP, which outlines the outstanding requirements outlined in the March 21, 2008 Federal Register Notice (73 FR 15087).

The second component is the Reasonably Available Control Technology (RACT) revisions, comprised of the latest Control Technique Guideline (CTG) rulemakings as well as a thorough discussion of the Volatile Organic Compound (VOC) and Oxides of Nitrogen (NOx) rules and their applicability to the various industries in the nonattainment area. The data in this document clearly proves the permanent and enforceable measures that have helped this area attain both the 1-hour and the 1997 8-hour ozone standards.

The final document is the state's Redesignation Request and Maintenance Plan which outlines the Louisiana Department of Environmental Quality's (LDEQ) obligation to the people of the state of Louisiana to sustain the current control strategy while working toward continued emissions reductions.

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If you or your staff have questions concerning this submittal, please ask them to contact either Michael Vince, Administrator at (225)-219-3482 or by email at michael.vince@la.gov or Vivian Aucoin, SIP Coordinator at (225) 219-3419 or by email at vivian.aucoin@la.gov.

I would like to thank you and your staff for all the assistance you provided to LDEQ. I hope that our agencies can continue to work together successfully on the forthcoming ozone standard as well as the various other standards issued by EPA.

Sincerely,

A handwritten signature in black ink, appearing to read "Peggy M. Hatch". The signature is written in a cursive style with a large initial "P" and "H".

Peggy M. Hatch
Secretary

c: Governor Bobby Jindal
Guy Donaldson, EPA

OVERVIEW

The Clean Air Act (CAA) Section 172(c)(1) provides that State Implementation Plans (SIPs) for nonattainment areas must include “reasonably available control measures” (RACM), including “reasonably available control technology” (RACT), for sources of emissions. Section 182(b)(2)(A) provides that for certain nonattainment areas, States must revise their SIPs to include RACT for sources of VOC emissions covered by a control techniques guidelines (CTG) document issued after November 15, 1990 and prior to the area’s date of attainment.

The US Environmental Protection Agency (EPA) defines RACT as “the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility.” (44 FR 53761, Sept. 17, 1979). In subsequent Federal Register notices, EPA has addressed how states can meet the RACT requirements of the Act.

The CAA Section 183(e) directs EPA to list for regulation those categories of products that account for at least 80 percent of volatile organic compound (VOC) emissions, on a reactivity-adjusted basis, from consumer and commercial products in areas that violate the National Ambient Air Quality Standards (NAAQS) for ozone (i.e., ozone nonattainment areas). EPA issued the list on March 23, 1995, and has revised the list periodically. [See 60 FR 15264 (March 23, 1995); see also 71 FR 28320 (May 16, 2006), 70 FR 69759 (November 17, 2005); 64 FR 13422 (March 18, 1999)]. Included in the list are the following source categories:

- flat wood paneling;
- large appliance coatings;
- metal furniture coatings;
- lithographic printing and letterpress printing;
- paper, film, and foil coatings;
- flexible package printing;
- industrial cleaning solvents;
- miscellaneous metal and plastic parts coatings;
- automobile and light-duty truck assembly coatings;
- fiberglass boat manufacturing materials; and
- miscellaneous industrial adhesives.

These CTGs are intended to provide state and local air pollution control authorities information that should assist them in determining RACT for VOCs from multiple source categories. In developing the CTGs, EPA evaluated the sources of VOC emissions from these categories and the available control approaches for addressing these emissions, including the

costs of such approaches. Based on available information and data, EPA provides recommendations for RACT for these categories.

The Louisiana Department of Environmental Quality (LDEQ) published an Advanced Notice of Potential Rulemaking (ANPR) on August 20, 2008 for rules covering the following CTGs: flat wood paneling; large appliance coatings; metal furniture coatings; lithographic printing and letterpress printing; paper, film, and foil coatings; flexible package printing; and industrial cleaning solvents. Comments were received for this ANPR and minor changes were made to the rule. The department published a proposed rule for these CTGs on December 20, 2008. Based on comments received for this proposal, technical amendments were made to the rule and the final rule was published in the Louisiana Register on June 20, 2009 (AQ 296 – Appendix A). This rulemaking was initiated due to the changes that EPA made to these CTGs which were published in the Federal Register on October 5, 2007 and October 9, 2007.

The Louisiana Department of Environmental Quality (LDEQ) published an Advanced Notice of Potential Rulemaking (ANPR) on August 20, 2009 for rules covering the following CTGs: miscellaneous industrial adhesives, miscellaneous metal and plastic parts coatings, fiberglass boat manufacturing materials, and automobile and light-duty truck coatings. Comments were not received for this ANPR but minor changes were made to the rule. The department published a proposed rule for these CTGs on March 20, 2010. Based on comments received for this proposal, technical amendments were made to the rule and the final rule was published in the Louisiana Register on August 20, 2010 (AQ 310 – Appendix A). This rulemaking was initiated due to the changes that EPA made to these CTGs which were published in the Federal Register on October 7, 2008. The state regulations fulfilling the VOC RACT requirements are shown in Table 1 of this document.

A summary of the changes EPA made to the CTGs and the process descriptions are as follows.

- A) Flat Wood Paneling Coatings: Minor clarifying changes were made, however, no changes were made regarding EPA's recommendations concerning the nature or applicability of control measures.

A typical flat wood coating facility applies stains and varnishes to natural plywood panels used for wall coverings. Other plants print wood grain patterns on particle board panels that were first undercoated with an opaque coating to mask the original surface. Coatings applied to flat wood paneling include fillers, sealers, "groove" coats, primers, stains, basecoats, inks, and topcoats.

- B) Lithographic Printing and Letterpress Printing: Several significant changes were made to the draft CTG for offset lithographic printing and letterpress printing as a result of comments received during the comment period. Clarifications were made to

the cleaning processes, cleaning materials, and fountain solutions. Changes were made to the applicability levels, percent control device efficiency, and applicability thresholds for the heatset dryers.

Offset lithography is an indirect printing method; that is, ink is not transferred directly to a substrate. Rather, ink is transferred from the lithographic plate to a rubber-covered, intermediate “blanket” cylinder and then transferred from the blanket cylinder to the substrate. The offset lithographic process is used for a broad range of printing applications, including, books, magazines, periodicals, labels and wrappers, catalogs, and directories, financial and legal documents, business forms, advertising brochures, newspapers, newspaper inserts, charts and maps, calendars, tickets and coupons, greeting cards, and stamps.

Letterpress printing is the oldest form of printing where ink is applied to the top surface of the raised image area. This in turn is pressed against the substrate to transfer the image. The majority of printing done today by the letterpress process includes newspapers, labels and books; however, the process is a slowly dying one as other better printing methods such as Offset and Flexography take over it.

- C) Flexible Packaging Printing: Four significant changes were made to the draft flexible packaging printing CTG as a result of comments received. These include: (1) removing the recommended VOC composite vapor pressure limit for cleaning solvents; (2) changing the recommended applicability threshold for controlling VOC emissions from inks, coatings and adhesives from 25 TPY per facility to 25 TPY per press; (3) providing additional overall control efficiency recommendations ranging from 65 to 80 % and changing the installation date of the add-on air pollution control device (APCD); and (4) changing the recommended low VOC compliance option limits from 0.5 kg VOC/kg solids applied and 0.10 kg VOC/kg material applied to 0.8 kg VOC/kg solids applied and 0.16 kg VOC/kg material applied.

Flexible packaging refers to any package or part of a package the shape of which can be readily changed. Flexible packaging includes, but is not limited to, bags, pouches, liners, and wraps utilizing paper, plastic, film, aluminum foil, metalized or coated paper or film, or any combination of these materials. Printing on flexible packaging is almost entirely conducted by rotogravure and wide-web flexographic printing.

- D) Industrial Cleaning Solvents: The draft CTG had solicited comments on possible use of a composite vapor pressure limit either as: (1) a replacement for 50 g/l VOC

content limit entirely; or (2) an alternative limit that may be used in lieu of the 50 g/l VOC content limit for specific operations as determined by the state or local agency. EPA included in the final CTG the vapor pressure limit of 8 mm HG at 20° C for cleaning solvents as an additional control option for the states to consider.

Industrial Cleaning Solvents include a variety of products that are used to remove contaminants such as adhesives, inks, paint, dirt, soil, oil and grease. Contaminants are removed from parts, products, tools, machinery, equipment, vessels, floors, walls, and other work production related work areas for a variety of reasons including safety, operability, and to avoid product contamination.

- E) Paper, Film, and Foil Coatings: The final CTG has been revised to provide separate applicability recommendations for coating operations and cleaning operations. For coating operations EPA has changed the applicability recommendation to apply to individual coating lines. Specifically that the control measures recommended in the final CTG apply to any coating line with the potential to emit 25 TPY of VOC, before consideration of control.

The paper, film, and foil surface coating process can be described as a web coating process, which is a process that applies a continuous layer of coating material across essentially the entire width or any portion of the width of a web substrate to: (1) provide a covering, finish, or functional or protective layer to a substrate; (2) saturate a substrate for lamination; or (3) to provide adhesion between two substrates for lamination.

- F) Metal Furniture Coating and Large Appliance Coatings: EPA has changed the low VOC content coatings recommendation in both the final metal furniture coatings CTG and the final large appliance coatings CTG. EPA is now recommending including separate VOC limits for certain specialty coatings and exemptions for certain specialty coating operations. Specifically, the final CTGs for metal furniture coatings and large appliance coatings include separate recommended limits for baked coatings and air-dried coatings in the following categories: general, one component; general, multi-component; extreme high gloss; extreme performance; heat resistant; metallic; pretreatment; and solar absorbent. The following exemptions have been recommended: stencil coatings; safety-indicating coatings; solid-film lubricants; electric insulating and thermal-conducting coatings; touch-up and repair coatings; and coating application utilizing hand-held aerosol cans.

Metal furniture coatings serve decorative, protective and functions purposes. Coatings protect the metal from corrosion by providing resistance to moisture, heat, and sometimes outdoor elements.

Large appliance coatings include, but are not limited to, materials referred to as paint, topcoats, basecoats, primers, enamels, and adhesives used in the manufacture of large appliance parts or products.

- G) **Miscellaneous Metal and Plastic Parts Coatings:** To further clarify the scope of each category for which we recommend specific VOC limits, the final CTG includes a definition for each of the coating categories with recommended VOC limits. EPA also added to the final CTG recommendations for specific VOC limits for eight categories of pleasure craft surface coatings.

The miscellaneous metal product and plastic parts surface coatings categories includes coatings that are applied to the surfaces of a varied range of metal and plastic parts and products. Such parts or products are constructed either entirely or partially from metal or plastic. These miscellaneous metal products and plastic parts include, but are not limited to, metal and plastic components of the following types of products as well as the products themselves: fabricated metal products, molded plastic parts, small and large farm machinery, commercial and industrial machinery and equipment, automotive or transportation accessories, bicycles and sporting goods, toys, recreation vehicles, pleasure craft, extruded aluminum structural components, railroad cars, heavier vehicles, lawn and garden equipment, business machines, laboratory and medical equipment, electronic equipment, steel drums, metal pipes, and numerous other industrial and household products.

- H) **Auto and Light-Duty Truck Assembly Coatings:** EPA has clarified in the final CTG that it covers the following materials: automobile and light-duty truck glass bonding primer, automobile and light-duty truck adhesive, automobile and light-duty truck cavity wax, automobile and light-duty truck sealer, automobile and light-duty truck deadener, automobile and light-duty truck gasket/gasket sealing material, automobile and light-duty truck underbody coating, automobile and light-duty truck trunk interior coating, automobile and light-duty truck bedliner, automobile and light-duty truck weatherstrip adhesive, and automobile and light-duty truck lubricating wax/compound. The final CTG also includes recommended VOC emission limits for these materials.

The coating process for automobiles and light-duty trucks consists of the following operations: (1) surface preparation, (2) priming operations, (3) topcoat operations, (4) final repair operations, and (5) cleaning activities.

- I) **Fiberglass Boat Manufacturing Materials:** EPA made the following changes to the final CTG: they clarified that certain non-atomizing resin applications technologies meet the recommended resin application equipment specifications; they revised the

description of “hand application”; they clarified that polyester bonding putties are included in the fiberglass boat manufacturing materials category; and they revised the VOC content limits for resins and gel coats such that they now consist of a monomer VOC content limit and a limit of the non-monomer VOC content.

Fiberglass boat manufacturing facilities covered by this CTG include facilities that construct the molds or “tools” that are used to build the separate parts of the fiberglass boat.

- J) **Miscellaneous Industrial Adhesives:** EPA revised the final CTG to recommend not applying the recommended limits to materials that are supplied to the facilities operating miscellaneous industrial adhesives application processes in containers with a net volume of 16 ounces or less or a net weight of one pound or less. EPA also recommended in the final CTG that the VOC content of adhesives, other than reactive adhesives, be determined using EPA Method 24. EPA also revised the definition of porous material to exclude wood.

Adhesives are used for joining surfaces in assembly and construction of a large variety of products. Although there are a wide variety of adhesives formulated from a multitude of synthetic and natural raw materials, all adhesives can be generally classified as solution/waterborne, solvent-borne, solventless or solid, pressure sensitive, hot-melt, or reactive.

Authority:

This SIP revision is made in accordance with the Louisiana R.S. 30:2019. The SIP revision is submitted in accordance with 40 Code of Federal Regulations (CFR) Part 51 Appendix V and policy established by EPA.