AIR CONTAMINANT DISCHARGE PERMIT

Department of Environmental Quality
Northwest Region
2020 SW Fourth Avenue, Suite 400
Portland, OR 97201-4987
Telephone: (503) 229-5263

Issued in accordance with the provisions of ORS 468A.040 and based on the land use compatibility findings included in the permit record.

ISSUED TO:

Dura Industries, Inc.
P.O. Box 10762
Portland, OR 97210

PLANT SITE LOCATION:

4466 NW Yeon
Portland, OR 97210

INFORMATION RELIED UPON:

Application No.: 015085

Date Received: 07-20-95

LAND USE COMPATIBILITY STATEMENT:

From: City of Portland

Dated: November 14, 1988

ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY

Tom Bispham

Thomas Bispham, Northwest Region Administrator

SEP 14 1995

Dated

ADDENDUM NO. 1.

In accordance with OAR 340-14-040, Air Contaminant Discharge Permit No. 26-3112, Condition(s) 15 through 21 are added as follows. All other permit conditions remain as issued on March 14, 1994.

SYNTHETIC MINOR CONDITIONS

15. The amount of Volatile Organic Compound (VOC) used in a year shall not exceed 33.3 tons.

16. The amount of each individual Hazardous Air Pollutant (HAP) used in a year shall not exceed 9.9 tons.

17. The amount of all HAP used in a year shall not exceed 24.9 tons.

(with a warranty) the long lasting life expectancy of 25 plus years, high durability and color retention, and resistance to atmospheric pollutants - particularly "acid rain" and alkaline deposits. The only architectural coating which meets the rigid AAMA standard contains 6.2 lbs VOC per gallon of coating, less water.

Atochem North America, Inc., a division of the French Company, Elf Aquataine, is the manufacturer of the resin binder trademarked "KYNAR 500", which is sold only to several licensed paint manufacturers including DeSoto Inc., The Glidden Company, PPG Industries Inc., and the Valspar Corp. KYNAR 500 is compositionally polyvinylidene fluoride, which is the key ingredient of the resin binder uniquely suited for AAMA 605.2 specifications: KYNAR 500 is highly resistant to UV light, is a strong water repellant, and provides the best available protection against the most general forms of environmental stress, and the other characteristics ideal for commercial application.

The availability of reformulation is primarily dictated by the physical law of solubility. The coating solid will not dissolve beyond its saturation point at given temperature and pressure. The coating solid is the coating component that dictates the coating (protective) characteristics, and solvent (VOC) is a mere transporting medium. As discussed, the amount of solvent needed to dissolve coating solids and formulate a gallon of coating is dictated by the physical law of solubility. The responses from the referenced paint manufacturers were essentially univocal: The development work to formulate a water reducible coating, which began as early as in 1960, continues unsuccessfully due to the unresolvable application problems. KYNAR 500 is soluble only in a few selected solvents and at relatively low concentration, and that successful formulation meeting the AAMA 605.2 spec must contain at least 6.2 lbs VOC per gallon of coating, less water.

It is also worth noting, for example, the common exterior paints with the average 3.5 lbs/gal VOC content generally have the normal life expectancy of less than 10 years. In comparison, the AAMA spec paints would certainly benefit the environment over the life (> 25 yr) of the AAMA spec finish. Also note that the "surface coating in manufacturing" rules are not applicable to the painting activities at the construction site and/or for the repair/maintenance works.

18. A selective survey was conducted on facilities in various ozone non-attainment areas which use AAMA 605.2 spec HPAC coatings, and their limits are listed below:

Company/Location	Non-Attainment Status	PSEL tons/yr	HPAC limit lbs/gal
PEPCO, Inc./ St. Paul, MN	Moderate	None	none

Aluminum Finishing Corp./Indianapolis	Moderate	25	None
Southern Aluminum Finishing Co./ Atlanta GA	Serious	35	6.2
International Extr., Inc./ LA CA	Extreme	None	3.2*

* afterburner Control required by Nov '93

The ozone non-attainment status is currently divided into 4 classes:

Extreme --> Serious --> Moderate --> Marginal

19. THE PORTLAND ATTAINMENT STATUS: The Portland area is currently designated as a marginal nonattainment area for ozone. However, one of the criteria for reaching the attainment status is to not exceed the national ambient air quality standard for ozone (0.125 ppm) more than once per year on average over a three year period. For past three years, Portland has been in compliance with the EPA standard:

Year (Date)	# Exceedances	Conc. (ppm)
1991 (7/02)	1	0.129
1992 (8/17)	1	0.126
1993	0	-

Department will also meet the EPA deadline (November '93) for the submittal of a plan to maintain compliance with the standard.

As indicated earlier, Dura's proposed PSEL is 33.3 tons/yr. According to Dura's emission data, the projected architectural coating usage is less than 10 tons/yr, and the rest is for non-architectural coatings and cleanup solvent usage.

There is only one other similar architectural coating facility (Anodizing Inc.) in Portland, but they are subject to meet the New Source Review (NSR) requirements and their VOC emissions would be controlled. The side benefit that will result from the NSR control requirements is that the coating line emission would also meet the RACT standard of 3.5 lbs/gal.

The Department's emission inventory (1990) indicates the industrial emissions account for about 6 percent of total Portland area VOC emissions. The excess emission due to the proposed alternative RACT limit (6.2 lbs/gal) is minuscule, and the impact on the ambient air quality (or Portland ozone maintenance plan) caused by proposed alternate RACT limit (source specific - only applies to Dura Inc.) would be insignificant:

Source Type	VOC Emissions - 1990 Ozone Season lbs/day	Percent (%)
Stationary Point Sources	35,913	6%
Stationary Area Sources	158,311	26%
Biogenic Sources	91,462	15%
Non-Road Mobile Sources	87,079	14%
On-Road Mobile Sources	239,338	39%
Total within Portland AQMA	612,103	

THE FEASIBILITY OF ADD-ON CONTROL

20. RACT compliance can be achieved by using compliant coatings and/or by adding pollution control devices. Due to the lack of reformulation, the feasibility of add-on abatement devices was explored to comply with the RACT standard, OAR 340-22-170 (5)(j)(E).

In choosing the pollution control devices, the initial capital investment cost was the major concern for Dura Inc. for several reasons. First of all, Dura is a small business with small capital. In addition, the possibility of utilizing a powder coating technology exists in near future. There are also uncertainties present in the future market share due to strong foreign competitions (with no VOC regulations). All things considered, the initial capital investment cost, and not the annual operating cost, is the primary factor influencing the selection of a specific type of control equipment.

Of existing abatement devices, a thermal incinerator system without the energy recovery is determined to be the most appropriate (a least initial capital cost) technology for this source. The other key parameters which influenced the cost analysis include the business decision to provide the incinerator control to only one spray booth - where all the AAMA spec coatings would be applied. Refer to attachments A1 through A5 for a complete cost analysis.

In summary, the annual cost of VOC control to meet the 3.5 lbs/gal RACT limit is determined to be $50,600. Based on the 10 tons/yr VOC emissions from the AAMA spec coating applications, the actual emission would be less, the cost per ton of VOC control is greater than $5,000/ton. The Department acknowledges the (greater than) $5,000/ton/yr control cost to be excessive for RACT, especially when the future market is uncertain, and therefore the thermal incineration control is not required as RACT.

THE ALTERNATIVE RACT LIMIT

21. Availability of Low-Solvent Coatings (compliant architectural coatings) has been discussed, and the feasibility of abatement devices has been explored. This permit determined the proposed alternative RACT limit for

architectural coatings that are subject to the AAMA 605.2 spec is 6.2 lbs VOC per gallon of coating, less water. The EPA compliance guideline dictates the alternative RACT limit be expressed on a solid basis, because when coatings are reformulated to a higher solids content, a smaller volume of coating material is required to apply the same amount of solids.

The 6.2 lbs VOC/gal coating, less water, means there is 6.2 pounds of VOC in one gallon of coating. Divide by the average solvent density of 7.36 lbs/gal, as cited at OAR 340-22-170 (6), the 6.2 pounds of VOC in one gallon of paint would occupy (6.2/7.36 =) 0.8424 gallon space. The rest (0.1576 gallon) of the gallon would consist of coating solids in this case. Therefore, the amount of VOC emitted per gallon of coating solids, less water, is:

$$\frac{6.2 \text{ lbs}}{0.1576 \text{ gal}} = \frac{39.3 \text{ lbs VOC}}{\text{gal coating solids}}$$

ADDITIONAL REQUIREMENTS

22. Special conditions in the form of compliance schedule contained in the permit include:

- The surface coating - RACT limits; and
- Requirement to advertise in the paint journal/magazine and continue to demonstrate that complying low-solvent coatings are unavailable.

23. Compliance schedule contained in the permit is conditional, and it may or may not be triggered pending EPA approval/disapproval of the alternate RACT limit as determined in the proposed permit. If EPA approves of the alternate RACT limit, the compliance schedule does not apply, but if EPA disapproves, the proposed alternate RACT limit will be systematically revoked as outlined in the compliance schedule.

PUBLIC NOTICE

24. The proposed Plant Site Emission Limit is same as the previous permit. A public hearing was held on December 20, 1993 for the alternative RACT limit proposed in this permit.

GDY
January 5, 1994
PERMITS\P263112R