

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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STATE OF ILLINOIS
Pollution Control Board

ORIGINAL

IN THE MATTER OF:)
)
Petition of Royal Fiberglass Pools, Inc.)
for an Adjusted Standard from)
35 IAC § 215.301)

AS- 09-4
(Adjusted Standard)

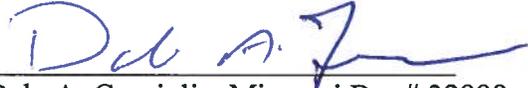
**TECHNICAL DOCUMENT SUPPORTING ROYAL FIBERGLASS POOLS, INC.'S
PETITION FOR AN ADJUSTED STANDARD**

<u>Section</u>	<u>Description</u>
1	General Information Regarding Royal Fiberglass Pools and Photographs of the Composite Fiberglass Swimming Pool Manufacturing Process
2	VOM Emission Summary for Royal Fiberglass Pools, Including Information Regarding Royal Fiberglass Pools' Compliance with the Composites MACT, 40 C.F.R. 63 Subpart WWWW
3	February 28, 2006 Submittal to Illinois EPA, Including Information Regarding the Facility and Production, Emissions Calculations, MACT Compliance and Emissions Control Cost Calculations and Analysis (<i>this letter was inadvertently dated February 28, 2005</i>)
4	June 23, 2006 Submittal to IEPA
5	June 30, 2006 Submittal to IEPA, Including Information Regarding the Facility and Production, Emissions Calculations, MACT Compliance and Emissions Control Cost Calculations and Analysis
6	May 27, 2008 Air Quality Impact Analysis of Royal Fiberglass Pools' Dix Plant Operations
7	July 22, 2006 Illinois Pollution Control Board Decision Regarding Crownline Boats, Inc.'s Petition for an Adjusted Standard
8	February 25, 2008 Letter from Rob Haberlein to Dale Guariglia with responses to questions posed by IEPA regarding updated costs of add-on controls, reduction in the size of the spray enclosures, and reduction in ventilation airflow being prohibited by OSHA requirements

Respectfully submitted,

BRYAN CAVE LLP

By:


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Attorneys for Royal Fiberglass Pools, Inc.

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing motion was served upon the following parties on the 31st day of March, 2009:

Illinois Pollution Control Board, Attn: Clerk
100 West Randolph Street
James R. Thompson Center, Suite 11-500
Chicago, IL 60601-3218

Division of Legal Counsel
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276
Attn: Charles Matoesian



AS 09-4

Technical Support Document

Section 6

(If you need to see another section, contact the Clerk's Office at 312/814-3629).

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May 27, 2008

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Mr. Guariglia:

As you requested, a worst-case air quality ozone impact analysis of the maximum VOC emissions from the Royal Pools facility in Dix, Illinois is attached hereto.

This analysis employs the Scheffe ozone screening tables, the ambient one-hour average ozone data from the ozone monitoring station nearest to the Dix facility, and the one-hour average ozone standard established by U.S. EPA.

As shown in this analysis, the worst-case one-hour average ozone impact is only 89 ppb, which is only 74% of the one-hour average 120 ppb ozone standard.

This analysis is very conservative, because the actual VOC emissions from the Dix facility will be much less than the smallest annual NMOC emission rate listed in the Scheffe screening tables.

Best regards



Robert A. Haberlein, Ph.D., QEP

May 27, 2008
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Air Quality Impact Analysis of the
VOC Emissions from the Royal Pools Facility in Dix, Illinois
using the Scheffe Screening Tables

The most recent four years of one-hour average ambient ozone data from the nearest ozone monitoring station located in Hamilton County is listed in the following table:

Year	1 st	2 nd	3 rd	4 th (highest samples in ppb)
2006	79	79	74	73
2005	87	86	86	85
2004	85	81	80	76
2003	102	89	88	85

The fourth greatest ozone measurement value is 85 ppb in calendar years 2003 and 2005. Therefore, the one-average ozone baseline concentration for the Dix facility is 85 ppb.

The maximum proposed annual styrene emission rate from the Dix facility that results from the production of 400 pools per year is about 18.3 tpy. Styrene is the only significant VOC emission specie from the plant. The only other significant emission specie is acetone, which is non-photochemically reactive and does not contribute to the formation of ozone. The total VOC emissions from the facility will be less than 25 tpy.

The maximum natural gas usage at the Dix plant should be less than 10 million cubic feet per year. According to the AP-42 NO_x factors for gas-fired heaters, this maximum usage is equivalent to:

$$10 \text{ million cu. ft.} \times 100 \text{ lb/million cu. ft.} / 2000 \text{ lb/ton} = 0.50 \text{ tpy of NO}_x \text{ emissions.}$$

The annual VOC-to-NO_x ratio is $25 / 0.50 = 50$.

According to Scheffe Table 1 "*Rural based ozone increment as a function of NMOC emissions and NMOC/NO_x ratios*" in the September 1988 report entitled VOC/NO_x Point Source Screening Tables by Richard D. Scheffe of the U.S. EPA OAQPS office, the worst-case ozone increment for the Dix facility will only be 4 ppb (0.4 pphm \times 10 ppb/pphm). This table value appears in the row labeled 50 tpy NMOC under the column labeled >20.7 NMOC/NO_x ratio.

Adding the one-hour average ozone increment for the Dix facility to the one-hour average ozone baseline for the local area yields a worst-case ozone impact concentration of $85 + 4 = 89$ ppb.

This worst-case impact is much less than the one-hour average ozone standard of 120 ppb established by U.S. EPA. Although EPA replaced the one-hour average ozone standard with an eight-hour average standard for most areas in the USA on June 15, 2005, the one-hour ozone standard is still the only standard that would apply to the IL EPA 8 pound-per-hour VOC limit, which is also an hourly emission limitation.