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AIR QUALITY CONTROL DISTRICT
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August 18, 2008

Gerardo Rios
Chief, Permits Office
U.S. EPA Region IX
Air Permits (AIR-3)
75 Hawthorne Street
San Francisco, CA 94105

Re: Proposed Title V Permit for Republic Plastics, San Manuel Foam Plant; Responses to EPA Comments

Dear Mr. Rios:

This letter is in response to the comments submitted by your office on the subject proposed permit on July 16, 2008. Attached are responses to your comments in a "Responsiveness Summary", as well as the latest redline version of the permit, which incorporates any changes made in response to your comments.

Please note that as requested in your letter, the comments have been addressed prior to issuing the final permit.

PCAQCD appreciates the time and dedication the EPA staff have provided towards reviewing this permit. If you have any questions regarding our responses or any changes made to the permit, please contact me at (520) 866-6860 or barbara.cenalmor@pinalcountyz.gov.

Sincerely,

Barbara Cenalmor
Air Quality Senior Permit Engineer

Enclosures

RESPONSIVENESS SUMMARY
To EPA Comments on Proposed Title V Permit
During Official 45-Day EPA Review Period
(June 2, 2008 to August 16, 2008)
for **Permit V20632.000**
Republic Plastics, San Manuel Foam Plant

The followings are EPA comments of April 15, 1998:

Comment 1: Permit condition 1 (page 3): Please correct the facility address to 27095 S. Republic Road.

Response: The change has been made.

Comment 2: Permit condition 5.A (page 5): We are concerned about the VOCs emission cap of 250 tpy because it is the PSD major source threshold (MST) and there are absent conditions (e.g., monitoring, work practices, recordkeeping, etc.) limiting the applicant's plant-wide potential to emit of 248.5 tpy VOCs (see comment #6 below).

In the Technical Support Document (TSD), Pinal County has determined that because Republic Plastics does not exceed the MST for VOCs, it is not a major source of VOCs and therefore not subject to PSD review. Although it is unclear if the 248.5 tpy is the emission limit, the permit should state that if, at any time, this limit is relaxed, the facility will be subject to the requirements of 40 CFR 52.21(r)(4). Furthermore, if the 248.5 tpy limit is exceeded, the facility may trigger PSD and may be treated as a source that should have obtained a PSD permit for VOCs. However, please note that in comment 2.C below and based on how the permit is currently written, we believe the proposed expansion at the facility is not a synthetic minor for VOCs and therefore may be subject to PSD.

It is unclear what assumptions were used in the PTE calculation methodology for determining actual VOC emissions. The following outlines inconsistencies that we discovered with respect to the information in the application, TSD, and permit conditions.

Response: The following language has been added to section §5.A of the permit:
“If at any time, this limit is relaxed, the facility will be subject to the requirements of 40 CFR §52.21(r)(4). Furthermore, if this limit is exceeded, the facility may trigger PSD and may be treated as a source that should have obtained a PSD permit for VOCs.”
Also, please note that the permit limitation in that same section has been revised to 245 tpy. This change is explained in sections 2D and 6 below, and the explanation of how this limitation was calculated has been expanded in section 3.1.4. of the TSD.

Comment 2A: Extruder Capacity - The application indicates a maximum capacity of 1800 lbs/hr for each extruder whereas the permit (conditions 4.B.1 and 11.A) rates the capacity at 1600 lbs/hr. Please indicate which capacity was used in the PTE calculations.

Response: While the nominal capacity of the extruders is 1600 lbs/hr, they can be operated up to 1800 lbs/hr. PTE calculations (see attached spreadsheet) were conducted using a capacity of 7,200 lbs/hr, or 1800 lbs/hr x 4 extruders. Permit Conditions 4.B.1 and 11.A have been corrected to reflect the correct maximum capacity of the extruders of 1800 lbs/hr each.

Comment 2B: Isobutane Emissions Factor - No information is provided as to how the isobutane retention factor (IBF) from the Texas plant is derived and how it is more “conservative” than Republic Plastics’ IBF of 0.022 lb of isobutane retained/lb of final product (see TSD, Section 3.1, VOCs). Please clarify

how the applicant estimated its VOC emissions and how they will comply with the emissions cap of 250 tpy. Please verify how the applicant determined the IBF.

Furthermore, please confirm that the IBF takes into account the percentage of CO2 when substituting for isobutane. Section 3.1 of the TSD mentions that the permittee replaces a percentage of the isobutane with CO2, however, in the application the permittee assumes a 0% substitution with CO2.

Response: The first permit application submitted by Republic Plastics for their minor permit used an IBF of 0.018 lbs isobutane retained/lb of final product. This emission factor is based on a 2003 laboratory analysis of samples from the Republic Plastics facility in McQueeney, Texas, which operates an identical process to the one at the San Manuel plant. At the request of PCAQCD, Republic Plastics submitted a copy of the lab report. The IBF had been determined by averaging the isobutane content remaining in 5 sets of styrofoam plates analyzed. While the IBF from the Texas facility was accepted for PTE calculations, the permit issued (C30851.000) required the same type of test for the San Manuel plant to be conducted no later than 60 days after issuance of the permit.

In March 2006, Permittee conducted the sampling at the San Manuel facility. While the average IBF obtained (0.022 lb/lb) would not have exceeded the 100 tpy VOC major source threshold (**please see Response to 2C for discussion on Storage Emissions**), PCAQCD found that the reduced number of samplings did not show conclusive results of whether the 100 tpy Title V threshold would be exceeded. Therefore, Revision C30851.R01, issued in May 2006, required that the permittee conduct monthly sampling for 12 consecutive months to come up with a local IBF.

As requested by their permit, on August 2007, Republic Plastics submitted a final report of the 12-month isobutane retention analysis. The average retention resulted from the analysis was 0.022 lbs of isobutane retained/lb of final product (2.2%), which demonstrated that the assumed 1.8% used in previous calculations was a conservative IBF since it represented less retention of isobutane and therefore more emissions while the product is at the facility (during production and storage).

While the amount of isobutane injected into the process is determined by the amount of foam sheet production (as seen in the calculations provided with the "Confidential" application), which is already limited by the permit, PCAQCD agrees with EPA that the use of CO2 in the process hasn't been accurately characterized in the permit or TSD. Potential emissions were calculated assuming at least a 20% substitution of CO2 on an annual basis, and the permit should include limitations on isobutane injection to ensure that this substitution is being made. PCAQCD also agrees with a later comment from EPA discussing the requirement of a isobutane meter and a CO2 meter.

Therefore in response to EPA's comment #2B the TSD has been revised to include a more accurate description of how the local IBF was determined, and which IBF is more conservative. Also, the permit has been revised to require the use of isobutane and CO2 meters and has included a limitation on the isobutane injection rate of 50 tons per month and 468 tpy which will limit VOC emissions to 245 tpy.

Comment 2C: Emissions from Final Product Storage - We are concerned that the applicant did not consider accounting for emissions resulting from the storage of the final product in the PTE calculations of VOCs. Isobutane is retained in the final product and isobutane retained in the final product de-gasses while sitting in storage. There is no mention of how the final product is stored, and there is no indication of how long the final products remain in storage in the TSD, permit, or application. In practice Republic Plastics may have erroneously excluded final product storage VOC emissions when determining its plant-wide potential to emit of 248.5 tpy.

Please clarify how the final products are stored and the duration of the storage that occurs at the facility. From this information, please present a summary of the PTE of VOC emissions from the storage of the final product. In fact, the application states that a "significant amount" of the isobutane is retained in the finished product "...due to the direct recycling of the fluff material..." If there is a "significant amount" found in the finished product, it is also assumed that a significant amount can be found the stored final product. The permittee should be required to perform testing of the final products to determine the amount of isobutane retained in the final product.

Response: During initial permitting of this facility in 2005, PCAQCD also raised concerns regarding storage emissions. Storage practices were not described in the permit application, and were not discussed until the first draft of the permit. The draft permit required that sampling for isobutane retention be conducted on product that was 60 days or older. In March 2006, Mr. Luis Castro sent us an e-mail describing their storage procedures, and in discussions with Mr. Castro and their consultants from Zephyr Environmental, it was understood that due to their kind of operation which caters to large customers such as Wal-mart, their product is stored on site for a maximum of 2 weeks, with weekly shipments. As part of their explanation Mr. Castro indicated that the thermoformers make 1 million plates per day and the San Manuel facility does not have enough space to store product longer than 2 weeks.

Therefore, when additional monthly isobutane retention analysis was included in their permit, it required that the product be at least 15 days old to account for any emissions released during the storage period. We find that the 0.022 IBF obtained accurately accounts for storage emissions.

The TSD has been revised to include an explanation of storage emissions.

Comment 2D: Given the uncertainty associated with Republic Plastics' VOC emission factor and compliance demonstration, the plant-wide PTE of 248.5 tpy is not practicably enforceable. Pinal County must determine a new VOC limit that is practicably enforceable according to John Seitz's 1989 "Guidance on Limiting Potential to Emit in New Source Permitting."

We believe as the permit is currently written and considering the items outlined above, the proposed expansion of adding two processing lines constitutes a modification that is major in and of itself. Therefore, the proposed permit fails to assure compliance with the requirements of New Source Review, leaving Republic Plastics vulnerable to enforcement action if they proceed with the modification.

Response: As calculated by PCAQCD, the potential to emit from the 2 new lines, assuming no CO₂ substitution is not a modification that is major of itself. We do agree that without any production and material limitations, with the addition of the 2 new extruder lines, the plant-wide emissions will increase above 250 tpy of VOCs, and in accordance with our rule §3-3-203.2.c the facility will then be a major source and will have to comply with the PSD requirements of §3-3-250. Therefore, the plant-wide emissions have been limited to below 250 tpy. In addition to the current production limitations, as indicated in the response for 2B, the new draft permit adds limitations on the use of isobutane (short and long-term limits), as well as requiring the source to install meters to monitor the flow of isobutane and CO₂, including recordkeeping of such use. The combination of all these limitations, with the corresponding compliance verifications through recordkeeping are enough to make the new VOC limit practically enforceable.

Calculations showing that the PTE for the 2 new lines are not a major source of itself and showing plant-wide emissions without any use of CO₂, plant-wide emissions using 20% of CO₂, and plant-wide emissions applying a production capacity limitation of 22500 tpy

of foam sheet product, have been included in this response package to EPA, but have been labeled “Confidential” and will also be added to our confidential file on Republic Plastics. The public version of these responses will only show the total emissions.

Comment 3: Permit condition 7.A, Regular Emissions Monitoring (page 7): Because it is important to have limitations on throughput and production to demonstrate compliance with emission limits, it is equally important to monitor the amount of the isobutane in the blowing agent that is entering the extruder, consistent with the IBF of 0.022 lb of isobutane retained/pound of final product. Pinal County should require that the permittee employ equipment such as a flow meter to measure isobutane levels and should be monitored daily as part of the permit requirements.

Response: As indicated in the responses to 2B and 2D, the permit has been revised to include a limitation on isobutane injection, as well as a requirement to install flow meters to measure the flow rates of both isobutane and CO₂. The compliance demonstration section of the permit also includes a recordkeeping requirement for isobutane and CO₂ use.

Comment 4. Permit condition 7.B, Recordkeeping (page 8): The permit should also require records of raw materials used under this section. Since compliance is based on the amount of isobutane blowing agent, please include a condition requiring these records.

Response: Please see the response to Comment 3.

Comment 5. Permit condition II.A, Facility Specific Data (page 14): The equipment list should include more detailed information and we recommend using a tabular format. Typical additional details include rated capacity, model number and/or serial number, manufacturer, date of installation, date of modification (if any). The equipment list in a permit should include adequate detail so that an inspector can determine if equipment was replaced or modified.

Response: As in other Title V permits issued by PCAQCD, the Equipment List has been revised and is now in a tabular form. It includes columns describing capacity, manufacturer, date of installation/modification.

Technical Support Document

Comment 6: Section 3, Emissions (page 3): We are concerned about the plant-wide VOCs potential to emit of 248.5 tpy because it is within 0.60% of the PSD major source threshold (MST) of 250 tpy. In general, we encourage a 5-10% buffer between the permitted emissions limits and the major source thresholds. The TSD should indicate whether the 248.5 tpy is intended to be an actual emission limit.

The source should consider a lower VOC limit to ensure that an exceedance of the limit will not trigger PSD. Alternatively, the source may choose to be permitted as a significant source of VOC, subject to PSD review and requirements (see comment #2 above).

Response: PCAQCD has discussed the option of PSD review with the source, in lieu of a limitation that could be exceeded in the future, leaving them open to enforcement action. The source has chosen the limitation, and while initially, due to the “explosive” demand for their product they chose a limitation of 248.5 tpy to accommodate their production capacity, they have agreed to a lower limitation of 245 tpy. They are aware of the repercussion that any exceedance of this limitation will have.

Comment 7: Paragraph 4.2.3.1 (page 5) refers to the non-applicability of 40 CFR Part 60, Subpart Kb Volatile Organic Liquid (VOL) Storage Vessels. The statements regarding non-applicability is unclear and requires clarification. Storage tanks can be subject to a wide range of regulations, depending on a number of different factors such as facility type, size, capacity, physical properties of materials stored, and date of construction.

We suggest a way to modify the language: "This subpart affects storage tanks used to store volatile organic liquids with a design capacity larger than 19,800 gallons and a maximum true vapor pressure less than 204.9 kPa. The isobutane storage tank at this facility has a design capacity of 30,000 gallons and will operate in excess of 204.9 kPa. Therefore, the requirements of NSPS Subpart Kb are not applicable to this facility."

Response: The TSD has been revised in accordance to the language suggested by EPA.

Comment 8: Similarly, paragraph 4.2.3.2 (page 5) refers to the non-applicability of 40 CFR Part 60, Subpart DDD Polymer Manufacturing, stating: "[t]his subpart affects manufacture of polyethylene, but this facility will receive polyethylene which [h]as already been produced." It is difficult to tell from this statement why Subpart DDD does not apply.

We suggest a way to modify the language: "This subpart affects facilities that manufacture the following polymers: polypropylene, polyethylene, polystyrene or poly (ethylene terephthalate). The permittee primarily extrudes foam from polystyrene pellets that are received from a third party source and is not in the business of manufacturing the aforementioned polymers. Therefore, the requirements of NSPS Subpart DDD are not applicable to this facility."

Response: The TSD has been revised in accordance to the language suggested by EPA.

Comment 9: Section 4.2.4, Chemical Accident Prevention Provisions (page 5): Please include a brief description of the applicability of the Risk Management Plan (RMP) requirements. At a minimum, the description should include the regulatory threshold, the on-site quantity of isobutane, and the specific regulatory citation. To the extent that there may other RMP-listed substances on-site that were determined to be below the thresholds, such substances also should be noted.

Response: The following language has been added to the TSD to clarify the applicability and requirements of the RMP:

Comment 10: Section 6, list of abbreviations (page 6): Please add the abbreviation for kPa -kilopascals.

Response: The abbreviation kPa has been added to the TSD.