

HEARING OFFICER'S REPORT

TO: The Honorable Shawn M. Garvin
Cabinet Secretary, Department of Natural Resources and Environmental Control

FROM: Lisa A. Vest, Regulatory Specialist *LAV*
Department of Natural Resources and Environmental Control

RE: Coastal Zone Act Permit Application of Veolia North America Regeneration Services, LLC, to increase its sulfuric acid regeneration production from 550 Tons Per Day ("TPD") to 750 TPD at its facility located at 766 Governor Lea Road, New Castle, Delaware

DATE: September 17, 2019

I. BACKGROUND AND PROCEDURAL HISTORY:

A public hearing was held on Tuesday, July 16, 2019, at 6:00 p.m. at the Department of Natural Resources and Environmental Control ("DNREC", "Department") located at 391 Lukens Drive, New Castle, Delaware, to receive comment on the application of Veolia North America Regeneration Services, LLC ("Applicant", "Veolia"), for a Coastal Zone Act ("CZA") permit from DNREC, pursuant to 7 *Del. C.*, Ch. 70, *Coastal Zone Act*. The CZA regulates new manufacturing activities, or the expansion of existing manufacturing uses, within Delaware's "Coastal Zone", which is a geographic area along the Delaware Bay and Atlantic Ocean Coastlines, as defined by the CZA. This hearing was held pursuant to Delaware's *Coastal Zone Act* and 7 DE Admin. Code 101, *Regulations Governing Delaware's Coastal Zone* ("CZA Regulations").

Pursuant to the Applicant's CZA permit application received by the Department on March 25, 2019 (and the addendum to that application provided to the Department on June 7, 2019¹), Veolia seeks permission to increase its sulfuric acid regeneration from 550 tons per day ("TPD") to 750 TPD at its Red Lion facility, located at 766 Governor Lea Road in New Castle, Delaware ("Application").

¹ The receipt date does not determine when an application is deemed administratively complete, pursuant to CZA Regulations 8.5.1 and 8.5.5. The application was deemed administratively complete on June 30, 2019.

Veolia currently operates its Red Lion facility on land leased from the Delaware City Refinery Company (“DCRC”) in Delaware City, Delaware, in accordance with (1) CZA Permit #406; and (2) Division of Air Quality (“DAQ”) Title V Operating Permit #AQM-003/00673 (Revision 3). The Applicant’s Red Lion plant is a sulfuric acid regeneration (“SAR”) facility. Veolia receives spent sulfuric acid from DCRC, which is then treated through a series of heating, cooling and cleaning processes to ultimately produce a final product of non-fuming sulfuric acid, commonly used as a pickling agent in such applications as steel manufacturing, wastewater treatment, and the manufacture of petroleum products.

The Applicant’s facility runs continuously (365 days per year), and uses a mist eliminator, a caustic scrubber, and a vapor combustion unit to reduce air emissions. The proposed production increase will require an increased flow through the current piping and treatment facility, however, no new construction or equipment, nor any changes in current operating procedures, will be necessary. Although the Applicant’s Red Lion facility does not occupy more than 20 acres itself, it is categorized as a heavy industry use, involving tanks, chemical processing equipment and scrubbing towers within the footprint of the DCRC (one of the fourteen heavy industry use sites under Delaware’s CZA). Since the Applicant’s existing CZA permit limits production to 550 TPD, the facility may not increase production to 750 TPD without the issuance of a new CZA permit.

The Department requires a CZA Applicant to set forth in its application the proposed project’s possible environmental impacts, including, but not limited to, any increased air emissions of pollutants, water quality/water quantity/water use, and the disposal of solid and hazardous wastes. Furthermore, any application for a CZA permit for an activity or facility that will result in any negative environmental impact shall contain an offset proposal. Offset proposals must more than offset the proposed environmental impacts of any proposed project.²

² 7 DE Admin. Code 101, *Regulations Governing Delaware’s Coastal Zone*, Section 9.0, “Offsets”

Pursuant to Section 8.3.2 of Delaware's CZA Regulations, the Secretary shall, in assessing CZA permit applications, consider how a proposed project will affect the following six criteria, as set forth in 7 *Del.C. Ch. 70, Coastal Zone Act*: (1) Direct and cumulative environmental impacts; (2) Economic effects; (3) Aesthetic effects (4) Number and type of supporting facilities and their anticipated impacts; (5) Effect on neighboring land uses; and (6) Compatibility with local comprehensive plans. 7 *Del.C. §7004(b)*.

In the present matter, Veolia currently emits air pollutants in accordance with its Title V Operating Permit # AQM-003/00673. The facility's proposed increase in production would increase its annual air emissions, however the increased emissions would still remain within the limits of the current Title V permit. Veolia's proposed production increase is estimated to increase its annual air emissions of sulfur dioxide (SO₂), sulfuric acid (H₂SO₄) mist, nitrogen oxide (NO_x), carbon monoxide (CO), particulate matter (PM₁₀ and PM_{2.5}), and volatile organic compounds (VOC) by a combined total of 31.643 tons.

Wastewater generated during the process is neutralized by adding caustic prior to being discharged to the DCRC wastewater treatment plant (which operates under existing National Pollutant Discharge Elimination System [NPDES] permit #DE 0000256). In the Applicant's process, a higher rate of production causes a greater proportion of the waste sulfur compounds to be emitted to the air, and less emissions to the wastewater. The proposed production increase will not increase the amount of wastewater Veolia generates on an annual basis.

The facility's stormwater discharges to surface waters will not change as a result of the project, since no new construction, buildings, or equipment are being installed in association with the proposed increase in production. Stormwater is generated by runoff from the facility's existing buildings and equipment, and is directed to the DCRC for treatment at its wastewater treatment plant prior to discharge at Outfall 001 to the Delaware River. The Applicant's increased production will continue to draw cooling water from DCRC's existing water allocation, as it has in the past, without the need for any new withdrawals.

With regard to solid waste generated by the Applicant's process (which includes neutralized wastewater, scrap metal, catalyst, universal waste, and used oil), it will continue to be either treated and disposed of at the DCRC, or transported and disposed of at permitted facilities offsite. Additionally, since there will be no construction and no new equipment necessitated by the proposed increase, the project will not affect wetlands or habitat for flora and fauna. Lastly, the Applicant's proposed project will not increase or affect glare, heat, noise, vibration, radiation, electromagnetic interference or obnoxious odors.

The Department anticipates no economic effects from Veolia's proposed production increase, as the Application states that there will be no construction, no new hires, and no new tax revenues. Additionally, the project will not result in the creation of any new supporting facilities.

The project site is contained within the footprint of the DCRC property, and will continue to be operated as heavy industry, in an area that is surrounded by heavy industry. Thus, the Applicant's proposed project will have no effect on the aesthetics of the area, as the facility is not undergoing any construction or changes in appearance. Since the project will not entail any construction, supporting facilities or major operational changes, there will also be no new effect on neighboring land uses.

With regard to the proposed project's compatibility with current New Castle County plans, Veolia's Application included a letter from John Troy, New Castle County Assistant Land Use Manager. Mr. Troy confirmed that the property where the project will occur is zoned "Heavy Industrial," and that the Applicant proposes an "allowable continued use" at that location. Therefore, the project is compatible with New Castle County's Comprehensive Plan.

As noted previously, the Applicant's proposed project anticipates increased air emissions. Section 9.1.1 of the CZA Regulations states that any application for a CZA permit for an activity or facility that will result in a negative environmental impact shall contain an offset proposal. Moreover, such offset proposals must "...more than offset the negative environmental impact associated with the proposed project of activity requiring a permit." DNREC Policy stipulates that negative environmental impacts resulting from projects requiring a CZA Permit be offset at a 1.3:1 ratio.

With regard to Veolia's offset proposal, the Applicant has proposed to more than offset the environmental impacts of the increased air emissions with a decrease in emissions from a neighboring facility, Formosa. Even though such an offset is not required by DAQ, both the Department's Coastal Zone Program and the Applicant have coordinated with DAQ on the air emission offsets to verify that they are technically correct, and that they are sufficient to meet the aforementioned offset standard noted above. The Applicant has proposed offsets for VOC and NOx emissions that comport with the State's Emission Banking and Trading Program.

It should be noted that DAQ does not require air emission offsets for pollutants other than VOC and NOx. The Department's Coastal Zone Program, however, is requiring the Applicant to more than offset those air emissions outside of the DAQ regulatory realm (those emissions include H₂SO₄, CO, and PM). Veolia calculated the emissions that are expected to result from the proposed increase in production, and these emissions are to be offset at a Ratio of 1.3 to 1.

As set forth in Table 2 of the Secretary's Assessment Report (a copy of which is attached hereto as Appendix "A" and expressly incorporated herein as such), the offsetting emissions acquired by Veolia from the retiring Formosa facility are at a ratio of 1.3 to 1, which, again, satisfies the Department's offset standard. Formosa wrote the DAQ to apply for certification of emission reduction on April 15, 2019 (including all the information as required by 7 Del. Admin. Code 1134). The DAQ has agreed to track both the emissions and the offsets in this matter, to ensure that the emissions are properly credited and eliminated.

The Department provided public notice of this CZA Application's submission, initially received by the Department on March 25, 2019 (along with an addendum provided on June 7, 2019), and the determination of an administratively complete application following the Secretary's Assessment, which was signed on June 30, 2019. Consequently, the Department held a public hearing on July 16, 2019 at the DNREC office located at 391 Lukens Drive, New Castle, Delaware. Only one member of the public appeared and offered comment, which will be discussed in further detail below. Proper notice of the hearing was provided as required by law.

II. SUMMARY OF THE PUBLIC HEARING RECORD:

The public hearing record consists of the following documents: (1) a verbatim transcript; (2) fifteen documents introduced by responsible Department staff at the public hearing held on July 16, 2019, and marked by this Hearing Officer accordingly as "Department Exhibits 1-15"; (3) five documents identified by Applicant representatives at the public hearing and marked accordingly as "Applicant Exhibits 1-5"; and (4) Technical Response Memorandum from Judy Jordan, Climate and Sustainability Section Manager, DNREC Division of Energy and Climate, dated September 9, 2019. The Department's person primarily responsible for reviewing this CZA Application, Ms. Jordan, developed the record with the relevant documents in the Department's files.

Representing the Applicant at the hearing was Dan Frattarelli, Plant Manager at Veolia's Red Lion facility, along with the Applicant's consultants, Sharon Morgan and Marjorie Zeff. Following opening remarks from Ms. Jordan on behalf of the Department (and the introduction of the Department's exhibits to be entered into the hearing record), Mr. Frattarelli proceeded to offer a brief background of the Veolia Red Lion facility. Ms Morgan then proceeded with a brief description of the current processes and the proposed project on behalf of the Applicant. Finally, Ms. Zeff concluded the Applicant's presentation with a summary of the community outreach completed by the Applicant and its consultants. At the conclusion of the Applicant's presentation, the floor was then opened for the purpose of offering public comment on the record regarding this proposed project.

The only comments received by the Department in this matter were those offered by Martin Willis at the public hearing on July 16, 2019. While Mr. Willis recommended that Veolia's pending CZA permit application be approved by DNREC, he did have several questions with respect to the Applicant's offset proposal. To that end, this Hearing Officer requested a Technical Response Memorandum ("TRM") from Ms. Jester to specifically address those issues. This TRM was provided to this Hearing Officer on September 11, 2019.

I find that the Department's TRM identifies all of the concerns raised by Mr. Willis' comments offered at the public hearing of July 16, 2019, and responds to them in a thorough and balanced matter, accurately reflecting the information contained in the formal hearing record generated in this matter. Thus, the aforementioned TRM is attached hereto as Appendix "B" and expressly incorporated herein as such.

III. RECOMMENDED FINDINGS AND CONCLUSIONS:

This application is for a permit issued under the CZA. I find that the Applicant's facility is located within Delaware's "Coastal Zone". I also find that, while Veolia's proposed project will result in increased air emissions, the Department has certified the proposed offsets are more than sufficient, as required per Section 9.1.1 of the CZA Regulations. Veolia has proposed to acquire Emission Reduction Credits from Formosa, to be used as their offset at a ratio of 1.3:1, in order to more than offset the increased emissions that would result from the proposed increase in production at the Red Lion facility. The Department believes that the offset Veolia has acquired and placed in their permit application complies with the applicable regulations.

As stated previously, the solid waste generated by the Applicant's process will continue to be either treated and disposed of at the DCRC, or transported and disposed of at permitted facilities offsite. The proposed increase in production will not increase the amount of wastewater Veolia generates on an annual basis, nor will it cause there to be any additional stormwater discharges to surface waters. There will be no new supporting facilities and/or services required to support this proposed project, and the proposed plan will not increase or affect glare, heat, noise, vibration, radiation, electromagnetic interference or obnoxious odors.

There are no anticipated economic effects from Veolia's proposed production increase, no effects to the aesthetics of the area or to neighboring land uses, no impact on wetlands, and no habitat for flora and fauna. Lastly, the proposed facility and operation is consistent with the City of New Castle's Comprehensive Plan.

The Department is to evaluate a CZA application based upon a consideration of the CZA's balancing of economic and environmental factors. The CZA requires the Department to consider the following issues of any given proposed project: (1) environmental impacts; (2) economic impacts; (3) aesthetic impacts; (4) the number and type of supporting facilities required and their impacts on all other factors; (5) the impact on neighboring land uses; and (6) the county and municipal comprehensive plans. 7 *Del.C.* §7004.

The record developed in this matter indicates that the Department's experts have considered the above factors, and have recommended issuance of a permit to the Applicant in this matter. Further, the experts recommended that the Applicant's Coastal Zone permit application, as well as the proposed offset proposal, was sufficient.

Based on the record developed, I find and conclude that the Applicant has adequately demonstrated its compliance with all requirements of Delaware's *Coastal Zone Act* and its CZA Regulations, as noted herein, and that the record supports approval of Veolia's CZA permit application. In conclusion, I recommend that a Coastal Zone Permit consistent with the record developed in this matter be issued by the Department in the customary form, and with appropriate conditions, to ensure continued improvement of environmental quality in the Coastal Zone of the State of Delaware.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has jurisdiction under its statutory authority to issue a CZA Permit to the Applicant, subject to reasonable permit conditions deemed appropriate and consistent with the CZA's purposes;

2. The Department provided adequate and lawful public notice of the CZA Application of Veolia North America Regeneration Services, LLC, and of the public hearing held on July 16, 2019, and held said hearing to consider any public comment that may be offered on the application, in a manner required by the law and regulations;
3. The permit applied for by Veolia North America Regeneration Services, LLC, is for production/manufacturing activities which will take place within the defined Coastal Zone of Delaware, specifically, for a production increase of its sulfuric acid regeneration from 550 tons per day (“TPD”) to 750 TPD, at its Red Lion facility, located at 766 Governor Lea Road in New Castle, Delaware. Environmental impacts are anticipated, however the emission reduction credits acquired from the retiring Formosa facility by the applicant are at a ratio of 1.3 to 1, which satisfies the Department’s offset standard. Additionally, DAQ has agreed to track both the emissions and the offsets associated with this proposed project, to ensure that all emissions are properly credited and eliminated;
4. The Department has carefully considered the factors required to be weighed in issuing a CZA permit, and finds that the proposed project is acceptable for the Coastal Zone at the proposed location, and that it should be permitted as set forth in Veolia North America Regeneration Services, LLC’s Application;
5. The Department shall issue a permit to the Applicant, Veolia North America Regeneration Services, LLC, and said permit shall include all conditions consistent with the final Order and any other reasonable conditions that the Department includes in a CZA permit, to ensure that Delaware’s environment will be protected from harm, consistent with the CZA and its Regulations;
6. The Department has carefully considered all the statutory factors to be considered in making a decision on a CZA permit, and those required to be considered under the CZA Regulations;

7. The issuance of the aforementioned CZA permit does not relieve Veolia North America Regeneration Services, LLC, of the legal obligation of compliance with all building permits, subdivision, and other applicable code requirements of the county or municipality wherein the permitted project is located;
8. If there are deviations from the Applicant's proposed plan and operations previously approved by the Secretary, Veolia North America Regeneration Services, LLC, shall notify the Secretary as soon as possible. If the Secretary receives information which he or she believes may alter the scope of the project, the Secretary may revoke the permit or require Veolia North America Regeneration Services, LLC, to submit a new application to reflect the altered nature of the project;
9. The aforementioned CZA permit will allow the Applicant to operate its business while reducing the overall environmental impacts to the Coastal Zone area, in furtherance of the purposes of 7 *Del. C.*, Ch. 70;
10. The Department has an adequate Record for its decision, and no further public hearing is appropriate or necessary; and
11. The Department shall serve and publish its Order on all affected persons in a manner consistent with the service and publication of the Secretary's Order.



LISA A. VEST
Public Hearing Officer

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Attachments/Appendices:

Appendix A: Secretary's Assessment Report, (06/30/2019)

Appendix B: Divisional TRM (09/0919)

APPENDIX "A"

SECRETARY'S ASSESSMENT OF A COASTAL ZONE ACT PERMIT APPLICATION

Veolia North America Regeneration Services, LLC
Red Lion Plant
766 Governor Lea Road, New Castle, Delaware
CZA Permit

Introduction

Under §8.3.4 of the Regulations Governing Delaware's Coastal Zone (Regulations), the Secretary of the Department of Natural Resources and Environmental Control (DNREC) shall provide a written assessment of a proposed project's likely impact on the six criteria listed in §8.1, as well as a preliminary determination of the sufficiency of the offset project under §9.0. This memo contains a report of the assessment of the application by Veolia North America Regeneration Services, LLC. The fact that the Department considers, preliminarily, an application to be administratively complete does not constitute the Department's position as to whether a permit should be issued or denied. That decision will be made after a public hearing is held and any comments are reviewed.

The Proposed Project

Veolia North America Regeneration Services, LLC (Veolia) currently operates a spent acid regeneration operation at its Red Lion plant on land leased from the Delaware City Refinery site under Coastal Zone Act (CZA) Permit #406. Veolia wishes to increase production to 750 Tons Per Day (TPD) from the 550 TPD currently allowed under Permit #406.

Veolia receives spent sulfuric acid from the Delaware City Refinery (DCR), which is treated through a series of heating, cooling and cleaning processes. First, the spent sulfuric acid and/or molten sulfur are fed into a combustion chamber for thermal decomposition to SO_2 at approximately 1200°C . The process gas is cooled in a waste heat boiler to produce steam. Water is removed via weak acid purge stream, which is then neutralized using a dilute sodium hydroxide solution. Wet gas is dried with a circulating stream of acid in a packed tower. The dried gas is then heated to approximately 420°C before entering a converter containing vanadium catalyst supported on silica. Here, the gas is oxidized to SO_3 .

Process gas from the converter is fed into the interpass absorption tower where the SO_3 is absorbed in a circulating stream of sulfuric acid. When the process gas leaves the interpass tower, it is heated to convert more SO_2 to SO_3 until the final product, non-fuming sulfuric acid, results. The product is used as a pickling agent in such applications as steel manufacturing, wastewater treatment and the manufacture of petroleum products.

The facility runs continuously 365 days per year and uses a mist eliminator, a caustic scrubber, and a vapor combustion unit to reduce air emissions. The increase in production requires no new construction or equipment and no changes in operating procedures. It only requires increasing flow through the current piping and treatment facility.

Although Veolia's Red Lion facility does not occupy more than 20 acres itself, it is a heavy industry use, involving tanks, chemical processing equipment and scrubbing towers within the footprint of the Delaware City Refinery, one of the fourteen heavy industry use sites under the CZA. The project entails an increase in production of 200 TPD of sulfuric acid. Since the current permit, # 406, limits production to 550 TPD, the facility may not increase production to 750 TPD without a new CZA permit. The proposed increase in production would constitute an expansion of the use and therefore must be permitted under 7 Del. C. §7004, which requires an assessment of six criteria.

Assessment of the Application

Section 8.3.2 of the Regulations requires consideration of an application's effect on the six criteria of 7 Del. C. Chapter 70:

1. Direct and cumulative environmental impacts
 2. Economic effects
 3. Aesthetic effects
 4. Number and type of supporting facilities and their anticipated impacts
 5. Effect on neighboring land uses
 6. Compatibility with local comprehensive plans
-
1. Direct and cumulative environmental impacts

The Veolia site emits air pollutants in accordance with its Title V Operating Permit # AQM-003/00673. The facility's increase in production would increase air emissions, but the emissions will remain within the limits of the current Title V permit. The facility is nevertheless required to offset the increased emissions under the CZA. The following table shows the increases in air emissions that would be caused by the project.

Table 1 – Project Air Emission Increases

Air Pollutant	Estimated Project Increase in Annual Facility Air Emissions (Tons)
SO₂	25.8
H₂SO₄ mist	2.1
NO_x	3.1
CO	0.28
PM₁₀	0.023
PM_{2.5}*	0.019
VOC	0.34
Total*	31.643

*Note: PM2.5 is not included in the Total because PM2.5 is part of PM10.

Wastewater is generated during the process and is neutralized by adding caustic before being discharged to the Delaware City Refinery (DCR) wastewater treatment plant. The treatment plant has a National Pollutant Discharge Elimination System (NPDES) permit (DE 0000256). In Veolia's process, higher rates of production cause a greater proportion of the waste sulfur compounds to be emitted to the air and less to the wastewater. Therefore, the increased production will not increase the amount of wastewater they generate on an annual basis.

Stormwater is generated by runoff from the facility's buildings and equipment and is directed to the DCR for treatment at its wastewater treatment plant prior to discharge at Outfall 001 to the Delaware River. Since no new construction, buildings or equipment are being installed, the facility's stormwater will not change as a result of the project.

VCR's increased production will continue to draw cooling water from DCR's existing water allocation as it has in the past without the need for any new withdrawals.

Solid waste from the process includes neutralized wastewater, scrap metal, catalyst, universal waste and used oil, which are and will continue to be either treated and disposed of at the DCR or transported and disposed of at permitted facilities offsite.

Since there is no construction and no new equipment, the project will not affect wetlands or habitat for flora and fauna.

The project will not increase or affect glare, heat, noise, vibration, radiation, electromagnetic interference or obnoxious odors.

The existing CZA Permit #406 requires the facility to operate under a process safety management (PSM) system. DuPont established the PSM system when they operated the plant, prior to the transfer of the permit to Veolia, and Veolia continues to operate under a PSM system.

2. Economic Effects

Veolia states that there will be no economic effects from the proposed project. There will be no construction, no new hires and no new tax revenues.

3. Number and Type of Supporting Facilities

The project will not result in the creation of any new supporting facilities.

4. Aesthetic Effects

The project site is contained within the footprint of the DCR property. It will continue to be operated as heavy industry in an area that is surrounded by heavy industry. The project will not have any effect on the aesthetics of the area, as the facility is not undergoing any construction or changes in appearance.

5. Effect on Neighboring Land Uses

The project, which will not entail any construction, supporting facilities or major operational changes, will have no new effect on neighboring land uses.

6. Compatibility with County and Municipal Comprehensive Plans

The application contained a letter from John Troy, assistant land use manager with New Castle County, stating that the property where the project will occur is zoned "Heavy Industrial." It stated further that the applicant proposes a continued use that is allowable in that district. Therefore, the project is compatible with New Castle County's comprehensive plan.

Offset

Section 9.1.1 of the Regulations states that offset proposals must "more than offset the negative environmental impact associated with the proposed project of activity requiring a permit."

As indicated by the environmental assessment, the impacts of the project consist of increased air emissions. While the emissions are within the limits of the facility's current permit, under the Coastal Zone Program, any increase in air emissions requires an offset, independent of the air quality rules and air quality permit.

In compliance with the Coastal Zone Program, the applicant has proposed to more than offset the environmental impacts of the increased air emissions with a decrease in emissions from a neighboring facility, Formosa. Even though the offset is not required under air quality rules, both the Coastal Zone Program and the applicant have coordinated with the Division of Air Quality (DAQ) on the air emission offsets to verify that they are technically correct and sufficient to meet the Coastal Zone Program “more than” offset standard. Veolia has proposed Coastal Zone Program offsets for Volatile Organic Compounds (VOC) and Nitrogen Oxides (NOx) that comport with the State’s Emission Banking and Trading Program.

The DAQ does not require air emission offsets for pollutants other than VOC and NOx. However, the Coastal Zone Program is requiring the applicant to more than offset those air emissions outside of the DAQ regulatory realm. These emissions include sulfuric acid (H₂SO₄), Carbon Monoxide, and Particulate Matter (PM). The applicant calculated the emissions that are expected to result from the proposed increase in production, and these emissions and the proposed offsets are presented in Table 2.

Table 2 – Project Air Emission Increases to be more than Offset in Tons Per Year (TPY)

Pollutant	Future Actual Minus Past Actual (Actual to Actual Increase)	Emissions to be Offset at a Ratio of 1.3 to 1
SO₂	25.8	33.5
H₂SO₄ mist	2.1	2.8
NO_x	3.1	4.0
CO	0.28	0.4
PM₁₀	0.023	0.030
PM_{2.5}*	0.019	0.025
VOC	0.34	0.4
Total*	31.643	41.136

*Note: PM2.5 is not included in the Total because PM2.5 is a subset of PM10 emissions

As Table 2 shows, the offsetting emissions acquired from the retiring Formosa facility by the applicant are at a ratio of 1.3 to 1, which satisfies the Coastal Zone Program’s “more than” offset standard. Formosa wrote the DAQ to apply for certification of emission reduction on April 15, 2019, including all the information required by 7 Del. Admin. Code §1134. The DAQ has agreed to track all the emissions and the Coastal Zone Program offsets to ensure that the emissions are properly credited and eliminated.

Conclusion

The application by Veolia addresses the questions of the permit application form and the six criteria required to be reviewed under 7 Del. C. §7004. The applicant proposes an offset for air emissions that would increase as a result of the project, and the proposal would more than offset those emissions. After review of the application, the Department considers the application to be administratively complete and sufficient for proceeding to public hearing.

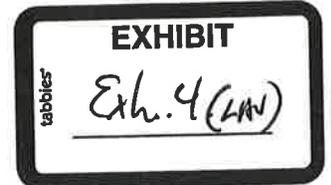
Approved: 
Shawn M. Garvin
Secretary

Date: 6/30/19

APPENDIX “B”



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES & ENVIRONMENTAL CONTROL
DIVISION OF CLIMATE, COASTAL, & ENERGY



OFFICE OF THE DIRECTOR

100 W. WATER STREET, SUITE 5A
DOVER, DELAWARE 19904

PHONE: (302) 735- 3480

Technical Response Memorandum

To: Lisa Vest, DNREC Regulatory Specialist
Thru: Dayna Cobb, Division Director *DNC*
From: Judy Jordan, CZA Program Manager *JW*
Re: Coastal Zone Permit Application, Veolia North America Regeneration Services, LLC Sulfuric Acid Regeneration Facility (CZA-436P)
Date: September 9, 2019

On July 23, 2019, you requested a Technical Response Memorandum from the Division of Climate, Coastal, & Energy to provide expert technical assistance for the Hearing Officer's Report and Recommendation to the DNREC Secretary with regard to the Coastal Zone Act Permit Application of Veolia North America Regeneration Services, LLC for the increase in sulfuric acid regeneration from 550 tons per day to 750 tons per day, as allowed by existing permit #406, at their sulfuric acid regeneration facility in New Castle, Delaware. You specifically asked for a formal response to public comments made at the July 16, 2019 permit hearing, and for development of a decision record to assist and support the Secretary's final decision. This memo provides the requested information and a recommendation from staff regarding permit issuance.

Only one member of the public appeared and offered comments, which are summarized and answered below:

1. *Obtaining emission reduction credits from a facility that is shut down is not an acceptable offset (Formosa, September 2018).*

The Coastal Zone program offsets are governed by 7 DE Admin. Code 101 §9.0. Specifically, §9.1.1 states that “offset proposals must more than offset the environmental impact associated with the proposed project or activity requiring a permit.” In addition, §9.1.5 states that “within 30 days the Secretary shall make a preliminary determination as to the whether the proposed offset commitment is sufficient.” The program conferred with the Division of Air Quality (DAQ) to help with the technical assessment of the offset proposal. In a memorandum dated May 21, 2019 (attached to this memorandum), the DAQ certified emission reduction credits (ERCs) from Formosa’s shut down of September 2018. Under 7 DE Admin. Code 1134 §4.1, 25% of those credits are retired, 25% are awarded to the Division of Small Business, and 50% are awarded to the applicant. Veolia proposed to acquire ERCs from Formosa to be used as their offset under 7 DE Admin. Code 101 at a ratio of 1.3:1 in order to “more than” offset the increased emissions that would result from the project. The offset that Veolia has acquired and placed in their permit application complies with the applicable regulations.

2. *Is 15 year old process equipment reliable?*

The Coastal Zone regulations and permit do not contain limits on the amount of time the permittee may use equipment, and it is a permittee’s responsibility to maintain any equipment in good working order to ensure compliance with applicable laws. The applicant has not had any violations associated with a malfunction of process equipment, and the Department has no reason to believe that the equipment has become unreliable as a result of its age.

3. *According to Veolia’s application, Formosa had no recorded emissions of sulfuric acid mist, so how will sulfuric acid mist emissions be offset?*

Sulfuric acid mist emissions were included as part of the environmental impact statement in the application, and are included in the emissions that the applicant has proposed to offset. In consultation with the Division of Air Quality, the Coastal Zone Program has determined

that the applicant has proposed to more than offset the project emissions in accordance with 7 DE Admin. Code 101 §9.0.

4. *How will the applicant subtract 6 tons of NOx emissions in order to comply with their Title V air permit?*

The Title V air permit is not the subject of this hearing, but the applicant is required to comply with the limits of the air permit, regardless of what the Coastal Zone offsets require. If the applicant were to exceed their air permit limits, the Division of Air Quality would take enforcement action under separate authority.

5. *If Formosa had not shut down its operations, what would have been the applicant's Plan B?*

Neither the Regulations Governing Delaware's Coastal Zone nor the application call for a Plan B in developing the offset proposal. The offset proposal that was presented in the application satisfies the regulatory requirement.

6. *Will future applicants continue to use credits from abandoned facilities as their offset proposal?*

This is a question about the program rather than a comment on the application.

Conclusion and Recommendation

Based upon our review of the application for the proposed project, its proposed offset project, and the testimony provided at the public hearing, I find that the proposed increase of sulfuric acid regeneration at the facility at 766 Governor Lea Road, New Castle, DE meets the criteria and standards set forth in the Regulations Governing Delaware's Coastal Zone for issuance of a Coastal Zone Permit and recommend issuance of the permit.



MEMORANDUM

TO: Angela D. Marconi, P.E., BCEE *ADM*
THROUGH: Joanna L. French, P.E. *JLF*
FROM: Whitney M. Diehl *WMD*
SUBJECT: **Formosa Plastics Corporation Delaware
Permit: AQM-003/00027 Renewal 2
Emission Reduction Credits (ERC) for Facility Shutdown**
DATE: May 21, 2019

BACKGROUND INFORMATION

Formosa Plastics Corporation Delaware operated the Formosa Plant (1000300027), a polyvinyl chloride (PVC) resin production facility that manufactures PVC from vinyl chloride monomer (VCM) and vinyl acetate monomer (VAM). The facility has two production plants denoted E2 and S2. The PVC resin is produced by a polymerization reaction that occurs in pressurized batch reactors. The polymerization reaction is never fully completed. As a result, some of the reactants remain in the reactor and product at the end of each batch. These chemicals are either stream stripped from the product and sent to a recovery system, incinerated in one of the two scrubber/thermal oxidizer control devices, or remain in the product and evaporate over time.

Due to economic conditions, the facility ceased production in September 2018. In December 2018, the facility's Title V Permit was canceled. An application for Emission Reduction Credits dated April 15, 2019 was submitted to the Department for certification.

TECHNICAL INFORMATION

7 **DE Admin. Code** 1134, Emission Banking and Trading Program in Section 4.1 states "An emission reduction is valid as an ERC only after certification by the Department. Emission reductions generated for the purpose of creating ERCs must meet, at a minimum, all of the following criteria:

- 4.1.1 The reductions must be created from decreases of VOC or NO_x emissions;
- 4.1.2 The emissions must be included in the 1990 or subsequent emission inventory;
- 4.1.3 The reductions must have occurred after January 1, 1991;
- 4.1.4 The emission reduction must be equal to or greater than one ton per year; and
- 4.1.5 The reductions must be **real, surplus, permanent, quantifiable, and enforceable.**"

Real

The baseline used for these calculations is based on EPA emission factors and stack testing results. For the 2016 and 2017 calendar years the baseline is:

VOC	Year	Ozone	Non-Ozone
	2016	25.4	21.8
	2017	27.0	19.7
	Average	26.2	20.8

NO_x	Year	Ozone	Non-Ozone
	2016	13.9	14.0
	2017	14.7	14.5
	Average	14.3	14.3

The maximum baseline is determined using actual emissions or allowable emissions. Actual are shown above. Allowable are used only if actual emissions are at a level that would be in violation (above permitted limits). Since these emissions were at levels that demonstrated compliance these actual emissions are used for the baseline.

Based on the most recent Full Compliance Inspection performed on August 24th and 25th, 2017 indicates Formosa was in compliance with operational limitations set forth for emission units that emit nitrogen oxides and volatile organic compounds.

As discussed below the credits were generated by shutting down these units so the post change emissions are zero. Thus the emissions in the baseline are the REAL emissions used in the calculations.

Quantifiable

The baseline emissions must be determined in a manner in which DAQ has confidence. In this case emissions were measured using emission rates reported in the facility's SLEIS reports for operating years 2016 and 2017. The baseline emissions are quantifiable.

Permanent

The facility, Formosa was entirely shutdown and removed from the site. The Title V Permit: **AQM-003/00027 Renewal 2**, was cancelled on December 31, 2018. All operation ceased on September 30, 2018.

Enforceable

The reductions are enforceable because of the shutdown and the cancellation of the associated permits. The equipment is still located at the site, however has been rendered inoperable. The Facility is in the process of selling the equipment.

Surplus

The emissions shown in the request represent actual operations that were less than the permitted emissions. The emissions were in compliance with the permits and the underlying regulations.

This facility completed a total plant shutdown. In this case the credits will be awarded at 50% to the applicant, 25% to the Delaware Development Office for economic development and 25% retired for an air quality benefit as stipulated in 7 DE Admin. Code 1134, Section 8.5.2.

NO_x and VOC Credits are awarded as given in the following tables and split into ozone and non-ozone seasons. Note that the credits are rounded to the nearest ton.

Volatile Organic Compounds (VOCs)

Year	Total ERCs (tons)	Ozone Season ERCs (tons)	Non-Ozone Season ERCs (tons)
2016	47.2	25.4	21.8
2017	46.7	27.0	19.7
Average	47	26	21
Company	24	13	11
DSBDT	12	7	5
Retired Credits	11	6	5

*DSBD: Division of Small Business Development and Tourism

Nitrogen Oxides (NO_x)

Year	Total ERCs (tons)	Ozone Season ERCs (tons)	Non-Ozone Season ERCs (tons)
2016	27.9	13.9	14.0
2017	29.2	14.7	14.5
Average	28	14	14
Company	14	7	7
DSBDT	7	4	3
Retired Credits	7	3	4

*DSBD: Division of Small Business Development and Tourism

RECOMMENDATION

I recommend that the attached ERC certification letter be sent to Formosa Plastics Corporation Delaware and that the ERCs be recorded in the Department's ERC Bank.

ADM:JLF:WMD
 F:\EngAndCompliance\WMD\wmd19026.doc

Pc: Dover Title V File



STATE OF DELAWARE
 DEPARTMENT OF NATURAL RESOURCES
 & ENVIRONMENTAL CONTROL
 DIVISION OF AIR QUALITY
 STATE STREET COMMONS
 100 W. Water Street, Suite 6A
 DOVER, DELAWARE 19904

Telephone: (302) 739 - 9402
 Fax No.: (302) 739 - 3106

May 24, 2019

Formosa Plastics Corporation Delaware
 9 Peach Tree Hill Road
 Livingston, NJ 07039

ATTENTION: Thomas S. Andersen
 Corporate Environmental Manager

SUBJECT: Application for Emission Reduction Credits
 Formosa Plastics Corporation Delaware

Dear Mr. Andersen:

The Division of Air Quality (DAQ) has reviewed the emission reduction credits (ERC) application submitted by Weijing Tao. After analysis, we are certifying ERCs as shown in the following table for the shutdown of Formosa Plastics Corporation Delaware. In accordance with 7 DE Admin. Code 1134 Section 8.5.2, the ERCs awarded to Formosa Plastics Corporation Delaware for emission reductions have been reduced by 50% of the total reduction.

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Please provide the Department with documentation of the anticipated trade of these credits to the Veolia Red Lion Plant if and when the trade occurs as required by 7 DE Admin. Code 1134 Section 9.0.

Delaware's good nature depends on you!

Formosa Plastics Corporation Delaware
May 22, 2019
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If you have any questions about this matter please contact me at (302) 323-4542.

Sincerely,



Angela D. Marconi, P.E., BCEE
Program Manager
Engineering & Compliance Branch

ADM:JLF:WMD
F:\EngAndCompliance\WMD\wmd19025.doc

Pc: Mark Prettyman