



STATE OF DELAWARE
DEPARTMENT OF NATURAL RESOURCES
AND ENVIRONMENTAL CONTROL

OFFICE OF THE
SECRETARY

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Secretary's Order No. 2015-CZ-0013

Re: Application of Delaware City Refining Company, LLC for a Coastal Zone Act Permit for an Expansion of a Pre-existing Non-conforming Use for Manufacturing Low Sulfur Fuels at the Delaware City Refinery, 4550 Wrangle Hill Road, New Castle, New Castle County (CZA Project No. 418P)

Date of Issuance: **April 8, 2015**

Effective Date: **April 8, 2015**

Under the authority granted the Secretary of the Department of Natural Resources and Environmental Control (Department) pursuant to *7 Del. C. Chap. 60*, the *Coastal Zone Act (CZA)*, *7 Del. C. Chap. 70*, the Department's *Regulations Governing Delaware's Coastal Zone*, *7 DE Admin. Code 101*, (Regulations) and other relevant authority, the following findings of fact, reasons and conclusions are entered as an Order of the Secretary following a public hearing on the CZA permit application submitted by Delaware City Refining Company, LLC (Applicant).¹

Background and Procedural History

On January 2, 2015, the Department received Applicant's CZA permit application to expand the existing nonconforming heavy industrial use of four acres of land at Applicant's petroleum refinery at 4550 Wrangle Hill Road, New Castle, New Castle County (Facility). The expansion would produce certain lower sulfur refined products,

¹ A subsidiary of PBF Energy, Inc.

notably, gasoline, diesel fuel and heating oil as part of Applicant's Low Sulfur Fuels Project (Project).

The Department, in a February 19, 2015, Secretary's Assessment Report, preliminarily determined that the application was administratively complete. The Department then provided public notice of the application and that a March 18, 2015 public hearing, as required by Section 8.3.5 of the CZA Regulations, would be held. The public hearing was held in the Department's Lukens Drive office in New Castle, and public comments were received from several speakers, who all supported the Project except for one person who stated he opposed increased investment in fossil fuel production. The public comment period closed at the conclusion of the hearing.

The Department's presiding hearing officer requested assistance from the Department's Division of Energy and Climate, Coastal Zone Act Program, which in an April 1, 2015 Technical Response Memorandum (TRM) recommended the issuance of a draft permit. In the attached Hearing Officer's Report (Report), dated April 6, 2015, the presiding hearing officer established the record and recommended issuance of a CZA permit, subject to permit conditions, as drafted by the Department's Division of Energy and Climate, CZA Program. I adopt the Report to the extent it is consistent with this Order.

Findings of Fact

Applicant's Project seeks a CZA permit to expand the Facility's production capacity of hydrogen in order to produce low sulfur fuels as refined petroleum products. Since the Facility is in the Coastal Zone,² the proposed expansion of the Facility's

² The Coastal Zone is a geographic area defined in the CZA that includes land along the Delaware coastline, and landward at various widths based upon existing roads, bays and canals.

manufacturing requires a CZA permit because the Facility is a pre-existing allowed heavy industrial non-conforming use within the Coastal Zone based upon its commencement of petroleum refining in 1957 before the CZA's June 28, 1971 effective date of regulation of all new or expanded manufacturing uses in the Coastal Zone. The Facility has remained in operation except for temporary closures, and has not been the subject of a Department order to abandon its CZA permit.

First, it is important to note that the Project's proposed expansion will not change the Department's existing CZA permit limit of 191,100 barrels of crude oil per day³ supplied to the Facility. Instead, the Facility will use the same amount of crude, but will produce lower sulfur fuels from it. To accomplish the sulfur reduction, the Facility uses hydrogen. Consequently, to produce lower sulfur fuels, more hydrogen is needed. Thus, the Project seeks a 30% increase proposed in hydrogen production, or from 100 million cubic feet per day to 130 million cubic feet per day.

The Project's expansion of the Facility's hydrogen capacity will come from installing new hydrogen producing equipment for the hydro-desulfurization process, which uses high temperatures, high pressure, refinery intermediate products, and hydrogen to lower the sulfur content in the refined petroleum products. The proposed new equipment includes a 372 million British thermal units an hour natural gas-fired steam methane reforming furnace. This furnace's waste heat will be used to produce steam, which will be used elsewhere in the Facility. This steam production is an important part of the Project from the Department's CZA perspective because the Applicant has committed to retiring from service the Facility's three steam package steam boilers. As a result of these retirements, the Project's air emissions of pollutants and the

³ As established in 2004 in CZA Permit 355 based upon a twelve month rolling average.

usage of water will decrease so that the negative impacts of the new equipment will be more than offset from the benefits from the retirements of the old steam boilers.

The Department reviewed the application's proposed environmental impacts in the Secretary's Assessment, including Applicant's proposed offset based upon the retirement of the three steam boilers and from an estimated 40,000 tons/yr equivalent reduction in air emissions of sulfur dioxide from end users of the new low sulfur product, many of whom are in Delaware. The environmental benefits of the Project were not disputed by the public comments at the public hearing. All of the comments about the Project were positive, except for one person who objected in general to any more investment in fossil fuels production, but who also recognized the environmental benefits from the Project. The rest of the public comments, including from workers, contractors, the League of Women's Voters, and the Delaware Nature Society supported the Project, although the League of Women's Voters would have preferred if the Applicant voluntarily provided more offsets.

The Department has carefully considered the Project's negative environmental impacts as required by the CZA, and finds that any negative impacts would be more than outweighed by the positive impacts, particularly the economic impacts. The Project's air quality positive impacts include reduced air emissions from the retirement of the three boilers to offset the air emissions from the new equipment. In addition, the retirement of the three boilers will reduce the Facility's water usage from its current levels. The water usage will be reduced by building a 2,000 gallon per minute cooling tower and the source of the additional water usage would be from public utility water service and Applicant's wells, and no withdrawals would come from the Delaware River.

Moreover, the Project will result in end users of the fuel emitting less sulfur dioxide (SO₂). The Department estimates the Project will reduce SO_x air emission by approximately 6,000 tons annually in Delaware alone and even more when lower SO_x emissions from other states are included. The CZA also requires the Department to expressly consider the Project's economic impacts. The Project will provide significant new construction spending estimated to be \$30 million during the two year construction period and reoccurring tax obligation from the Project. In addition, the Project is vital to the Facility's future as a producer of low sulfur fuels, which consumers will be required to use in the future due to increasingly more stringent federal and state government regulation over sulfur dioxide air emissions from burning gasoline, diesel, and oil. The economic impact of the Facility on Delaware is considerable, as evidenced by many workers' comments at the public hearing about what happened when they became unemployed when the Facility temporarily shut down in 2009. Thus, the Project will allow the Facility to produce lower sulfur fuels and compete with other refineries to satisfy the growing demand for such fuels.

In addition to the environmental and economic impacts, the Department's experts have considered the Project's aesthetic effect on the surrounding area, and concluded that the Project will not change the view as the Project will be part of the existing refinery. The number and type of supporting facilities the Project requires has been considered, and the only new support facility is a new natural gas pipeline to be installed by the natural gas company. The Project's effect on neighboring land uses will not change as the Project will be part of the existing refinery. Finally, the Project would be consistent with the New Castle County zoning and the local comprehensive plans for development.

The Department will monitor the Facility's operations once the Project is completed pursuant to its other regulatory permit programs. The Project's air emissions will be subject to ongoing regulation under Department's *Regulations Governing the Control of Air Pollution, 7 DE Admin. Code 1100 et seq.* Similarly, the Department will regulate the Facility's use of water under its Regulations for wells and water supply, and wastewater.

Conclusions and Reasons

Accordingly, I find and conclude that the record supports approval of the permit application and I direct that the draft permit be issued to the Applicant, subject to certain conditions, and enter following conclusions:

1. The Department has jurisdiction and authority to issue a CZA Permit to the Applicant subject to the reasonable permit conditions deemed appropriate and consistent with the CZA's purposes included in the draft permit prepared by the CZA Program;
2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and its regulations;
3. The Department held a public hearing in a manner required by the law and its regulations;
4. The Department considered all timely and relevant public comments in making its determination;
5. The Department carefully has considered all the factors to be considered in making a decision on a CZA permit application under the CZA and its Regulations; and

6. The Department shall publish legal notice this Order and otherwise provide notice as to all affected persons in a manner consistent with the public notice required by the law and the Department's Regulations, and shall publish on the Department's web site.

A handwritten signature in black ink, appearing to read "David S. Small". The signature is fluid and cursive, with a large initial "D" and "S".

David S. Small
Secretary

HEARING OFFICER'S REPORT

TO: The Honorable David S. Small
Secretary, Department of Natural Resources and Environmental Control

FROM: Robert P. Haynes, Esquire
Senior Hearing Officer, Office of the Secretary
Department of Natural Resources and Environmental Control

RE: **Application of Delaware City Refining Company, LLC for a Coastal Zone Act Permit for An Expansion of a Pre-existing Non-conforming Use for Manufacturing Low Sulfur Fuels at the Delaware City Refinery, 4550 Wrangle Hill Road, New Castle, New Castle County (CZA Project No. 418P)**

DATE: April 6, 2015

I. PROCEDURAL HISTORY

This Report makes recommendations to the Secretary of the Department of Natural Resources and Environmental Control (Department) on Delaware City Refining Company, LLC's (Applicant) Coastal Zone Act¹ (CZA) permit application, which was dated December 31, 2014 and received by the Department's Division of Energy and Climate, Coastal Zone Act Program (CZA Program) on January 2, 2015. The Applicant seeks permission to expand the manufacturing of products in order to produce lower sulfur fuels (Project) at Applicant's petroleum refinery complex, which is located at 4550 Wrangle Hill Road, Delaware City, New Castle County (Facility).

On January 11, and 14, 2015, the Department published notices of the receipt of the application in the *News Journal* and *New Castle Weekly*, respectively.

On January 26, 2015, Department representatives in the CZA Program met with the Applicant's representatives to review the application and to request additional information.

The CZA Program also requested the other Department Divisions to comment on the application.

¹ 7 Del. C. Chap. 70.

On February 5, 2015, the Department received from the Applicant some of the supplemental information that the Department requested.

On February 10, 2015, the Department requested a clarification on the supplemental information.

On February 10, 2015, the Applicant provided the Department with the requested clarification of its prior response.

On February 10, 2015, the Department received from the Applicant the requested information on the New Castle County zoning.

On February 19, 2015, the Department preliminarily determined that the application was administratively complete by the Secretary's signing of the "Environmental Assessment Report," which under the CZA Regulations begins the Department's ninety day time period to make a final decision on the application.

On February 22, and 25, 2015, the Department had published in the *News Journal* and *New Castle Weekly*, respectively, notices of a public hearing to be held March 18, 2015 at the Department's offices at 391 Lukens Drive, New Castle.

I presided over the March 18, 2015 public hearing, which was held pursuant to CZA Section 7005(a)(2) and Section 8.3.5 of the Regulations and followed the Department's procedures in *7 Del. C. Chap.60* and in the Regulations. The public comment period closed at the conclusion of the hearing, and a 52 page verbatim transcript of the hearing was received March 25, 2015. The Department did not receive any written public comments.

I requested the Department's CZA Program for its technical recommendation, and Kevin Coyle, Principal Planner, and Phil Cherry, Division Director, of the Department's Division of Energy and Climate, provided on April 1, 2015 the attached Technical Response Memorandum (TRM) and draft permit. The TRM recommends issuance of the draft permit. I consider the

record complete, as established below, and I find that the record supports a decision to issue the permit prepared by the CZA Program.

II. SUMMARY OF THE RECORD

This Report is based upon the following record: 1) the documents introduced as exhibits at the public hearing and identified below, 2) the verbatim transcript of the public hearing, and 3) the information in this Report and the documents and information identified herein based upon my review of the Department's files and discussions with Department experts.

At the public hearing, Kevin Coyle, the CZA Program's Principal Planner, submitted the following documents² from the Department's files, which were marked as exhibits:

DNREC Exhibit 1-Application for a Coastal Zone Act Permit, dated December 31, 2014, and received by the CZA Program on January 2, 2015

DNREC Exhibit 2-Affidavit of Publication announcing the receipt and availability of the Coastal Zone Act Permit application, *News Journal*, dated January 11, 2015

DNREC Exhibit 3-Affidavit of Publication announcing the receipt and availability of the Coastal Zone Act Permit application, *New Castle Weekly*, dated January 14, 2015.

DNREC Exhibit 4-E-mail with an attached letter from Larry Boyd, Delaware City Refining Company, LLC, to Kevin Coyle and Ravi Rangan, DNREC, dated February 5, 2015, providing additional information.

DNREC Exhibit 5-E-mail from Kevin Coyle, DNREC, to Larry Boyd, Delaware City Refining Company, LLC, February 10, 2015, requesting clarification of a claim made in the February 5, 2015 letter.

DNREC Exhibit 6-E-mail from Thomas Godlewski, Delaware City Refining Company, LLC, to Kevin Coyle, DNREC, dated February 10, 2015, providing clarification to the claim made in the February 5, 2015 letter.

DNREC Exhibit 7-Letter from Larry Boyd, Delaware City Refining Company, LLC, to Secretary David Small, dated February 10, 2015, with an attached Zoning Certification from the New Castle County Department of Land Use.

² The Department provides documents for the record at the public hearing solely to assist the public in making public comments. The Department does not have a burden of proof to develop a record during the public hearing.

DNREC Exhibit 8-Secretary's Environmental Assessment Report, dated February 2015, and signed on February 19, 2015.

DNREC Exhibit 9-Affidavit of Publication announcing the public hearing and the availability of the Coastal Zone Act Permit application, *News Journal*, dated February 22, 2015.

DNREC Exhibit 10-Affidavit of Publication announcing the public hearing and the availability of the Coastal Zone Act Permit application, *New Castle Weekly*, dated February 25, 2015.

Following the CZA Program's presentation on the application, the Applicant's Environmental Manager, Tom Godlewski, spoke and introduced the Applicant's other representatives, Larry Byrd, Senior Environmental Engineer, and Colin McGoarty and Beth Wyke, who are Applicant's consultants from the consulting firm of Environmental Resource Management.

Mr. Godlewski stated the purpose of the permit was to allow the Facility to manufacture low sulfur fuel to meet the United States Environmental Protection Agency's (EPA) standard of 10 parts per million (ppm) in gasoline by January 2017, which was a reduction from the current 30 ppm standard. In addition, he mentioned the Department's regulation that will require a reduction in home heating oil's sulfur content from 3,000 ppm to 15 ppm by July 2016. He stated that the Facility's lower sulfur fuels would remove 56 tons a day of sulfur from the fuels produced, which would result in approximately 40,000 tons per year reduction in (SO_x) air emissions when the fuels are burned in gas or diesel fueled engines, home heating units, or similar uses.

He explained that the lower sulfur fuels would be manufactured by adding 30 percent more hydrogen capacity, or an increase in the Facility's 100 million standard cubic feet per day hydrogen capacity to 130 million cubic feet per day. He explained that the Project's sulfur removal process would use a hydro-desulfurization process, which, in turn, uses high

temperatures, high pressure, refinery intermediate products, and hydrogen to lower the sulfur content in the petroleum products using steam methane reforming process that would use high temperature and pressure. He described the Project's largest source of air emissions would be from a new 372 million British thermal units (Btu) an hour natural gas-fired steam methane reforming furnace. He stated that this furnace's waste heat will be used to produce steam, which will be used elsewhere in the Facility and thereby allow the Applicant to retire three package steam boilers at the Facility. Mr. Godlewski mentioned the Project's other three sources of new air emissions, which are an emergency flare, vapors from the cooling towers for the Project's cooling water usage, and a deaerator on the steam generating vent that removes impurities in the steam. He stated that the Project's four sources' annual emissions would be 16.3 tons for NOx, 0.10 ton for SOx, 24 tons for carbon monoxide (CO), 8.6 tons for volatile organic compounds (VOC), 12.6 tons of particulate matter, and 0.01 tons of sulfuric acid. He said the emissions were subject to a 'minor source' air pollution control permit application, which the Applicant already had submitted to the Department's Division of Air Quality for review.

He described the efficiency of the equipment to be installed, and described how using air cooling will minimize the size of the cooling towers, which emit vapors that would be regulated as air pollutant particulate matter.

He further explained the heating oil usage in the Delaware market would be 15% of Applicant's total sales, which should remove 450 tons of SOx annually from Delaware's air.

Mr. Godlewski described the Project's economic impact would be to add approximately 150 construction jobs over the two year construction period at an estimated weekly payroll of \$630,000. In addition, the Applicant would purchase supplies for a total \$30 million in estimated construction expenditures that would also produce \$ 3 million annually in tax revenue. The ongoing tax benefit from the Project he estimated to be \$1.1 million annually. He concluded his

presentation by stating that the clean fuels Project is necessary for the Facility to operate to meet the reduced sulfur content required by federal and state regulators in order to improve the air quality.

The first member of the public to speak was Martin Willis, who voiced his support for the application and mentioned that the Project was consistent with the allowable manufacturing in the Coastal Zone and that the Project will only use 4 acres of the Facility's 1,700 acres that are in the Coastal Zone, and which all are appropriately available for heavy industrial use under New Castle County zoning and the CZA. He provided a long list of no adverse impacts on the environment.

Robert Carl spoke in support of the application as a member of the Facility's community advisory committee and leader of organized labor groups as vice president of the building trades council and business manager of the insulators and asbestos workers.

Kevin Herbein, President of United Steel Workers Local 4898 spoke next in support of the Project and how it would increase the viability of the Facility as an east coast refinery.

Brenna Goggin, representing the Delaware Nature Society and its 6,000 members, spoke in support of the Project and its proposed production of cleaner fuels. She also asked the Applicant to propose a voluntary offset to reduce carbon dioxide (CO₂) levels in the environment.

James Maravelias, President of the Delaware Building Trades and vice-president of the AFL-CIO in Delaware spoke in support of the Project.

David Bobon spoke next and he indicated he worked at the Facility, and welcomed the construction work the Project would provide, which would aid the Facility to compete in the competitive refinery business.

Joe Williams spoke as business agent for the elevator contractors. He supported the Project.

John Bland, business agent for Local 13 Boilermakers, spoke in support of the Project even though the Project would remove three boilers.

George Shriglia, a carpenter at the Facility, spoke in support of the Project and described the hardship when the Facility closed in 2009. He said the new owners of the Facility were doing a great job at upgrading the plant's culture of safety and running an environmentally sound operation. He said the hydrogen plant will allow the Facility to produce cleaner fuels.

Bernie August spoke in favor of the boiler replacement because they always break down and cause problems at the Facility. He questioned spending any money on fossil fuel production when there is too much CO₂ that causes adverse climate change.

Stan Green spoke in favor of the Project and he resides next to the Facility. He spoke of the benefits from government regulation of the Facility, and how ugly things were when the Facility closed.

Peggy Schultz spoke on behalf of the league of Women Voters of Delaware in support of the Project. She noted the benefit from producing low sulfur fuels that would reduce air emissions in the northeast. She also noted the direct reductions in air emissions from the replacement of the three boilers by the efficient and cleaner burning boiler used to make hydrogen. She did seek more environmental offset for the emission of CO₂. She criticized the Department for not implementing the CZA in publishing environmental goals and indicators. She provided a written statement that was marked as League of Women's Voters Ex. 1.

Blake Baxter spoke as a carpenter at the Facility and how he supports the Project as a way to provide work security for him and other employees.

Mike Hackendorn, business agent for Local 74 and a member of the Delaware Building Construction Trades Council, spoke in support of the Project. He complimented the Facility's newest owner, PBF Energy, for running the Facility more efficiently and safer than any prior owner he has seen in his 24 years working at the Facility. He also lives five miles from the Facility.

Don Hahn spoke as a business owner who employs electricians who work at the Facility and he mentioned the impact of the Facility's jobs and how devastating the closure of the Facility was to the economy and his 25 employees who had worked there.

At the conclusion of the hearing I considered the request to keep the public comment period open, which was a request opposed by the CZA Program and the Applicant. I denied the requested extension based upon the comments presented, the prior notices that provided ample opportunity to comment, the lack of any comments in the associated air pollution control permit application, and the time constraints imposed by the CZA.

I requested assistance from the Department's experts, and the CZA Program provided the attached memorandum that recommends issuance of the draft permit accompanying the TRM. It notes the application complies with the CZA and its Regulations.

III. DISCUSSION OF FINDINGS AND REASONS

This application is submitted under the CZA and is subject to the CZA Regulations and Department CZA policies.

CZA Regulation of Expansion of Nonconforming Heavy Industrial Uses

The Project's location is within the Coastal Zone.³ The Department has concluded in prior CZA determinations that the Facility's uses of land in petroleum refining and associated transportation are allowed as pre-existing "nonconforming" "heavy industrial use," as defined by

³ The Coastal Zone is a geographic area defined in the CZA that includes land along the Delaware coastline, and landward at various widths based upon existing roads, bays and canals.

Section 7002 of the CZA. These decisions are based upon the Facility's 1957 commencement of petroleum refinery operations prior to the June 28, 1971 effective date of the CZA. Petroleum refining is 'manufacturing' as defined by the CZA, and a petroleum refinery complex is used by the CZA as an example for described a "heavy industrial use." I find that the temporary shutdown of refinery operations in 2009 and the resumption of operations under new ownership in 2010 did not result in any Department determination that the Facility had abandoned its nonconforming heavy industrial use status under the CZA.

Section 7004 of the CZA allows a nonconforming heavy industrial use to seek a CZA permit for "all expansion or extension of uses." I find that the proposed additional hydrogen capacity and production of lower sulfur fuels are proposed expansions or extensions of the nonconforming heavy industrial use, which I find is the refining of petroleum into several refined products and the associated transportation.

Pursuant to the CZA Regulations, the application for the CZA permit was initially reviewed by the Secretary, who signed the 'Assessment Report' that preliminarily determined that the application was complete, including the proposed offset. This allowed the application to be subject to further public notice and the scheduling of a public hearing.

At the public hearing, the public comments were received and they did not raise any issue to warrants a denial of the permit application or the imposition of any special permit conditions other than what the CZA Program proposed. Instead, the public hearing record supports the issuance of a CZA permit, as prepared by the CZA Program with almost all comments supportive of the Project. Thus, with the conclusion of the public hearing, all the necessary procedural steps for public comment required by the CZA have been satisfied.

The Project's Description

The Project will allow an expansion of the Facility's hydrogen production capacity from 100,000 to 130,000 million cubic feet per day. This increase will not change the Facility's CZA permit limit, which is based upon a limit of 191,100 barrels per day of crude oil⁴ supplied to the Facility. The additional hydrogen produced by the Project will allow the Facility to lower the sulfur content in its refined products, which, in turn, will be sold to consumers who will burn the fuels and emit approximately 40,000 tons per year less SOx. Government regulation, both at the federal and state levels, has caused the Applicant's move to cleaner burning fuels because of the harmful impact SOx emissions have on air quality, which in turn harms public health and the environment. Thus, an examination of the Project's new equipment and the Project's overall environmental impacts supports finding that a CZA permit should be issued for the Project.

The Project involves the installation and operation of new hydrogen production equipment, and the retirement of three package boilers used to produce steam. The new hydrogen production equipment consists of a one-train steam reformer, a high temperature shift reactor, pressure swing adsorption system, an electrically-driven high pressure hydrogen compressor, a 2,000 gpm cooling tower, a hydrogen flare, and fugitive piping and equipment components, and structures to hold certain equipment. An above ground aqueous ammonia tank will be installed for the pollution control equipment used to reduce NOx air emissions from the new equipment. The Department's CZA review must consider the Project's possible various negative impacts and then determine whether the Project meets the CZA's criteria for approval.

Land usage impacts

The Project would build a new hydrogen plant on a four acre gravel area adjacent to the existing refinery plant and it would operate as an integral part of the existing refinery. The

⁴As determined on a twelve month rolling average in CZA Permit No 355 issued in 2004.

Project would have structures for control devices and analytical equipment, including a continuous emissions monitoring system for air emissions. The proposed construction would include a 2,000 gallon per minute cooling tower. I find this land usage acceptable under the CZA as consistent with the approved nonconforming heavy industrial use and its expansion by the Project.

Air quality impacts

The Department’s Division of Air Quality (DAQ)⁵ is currently considering the permit application for air emissions from the Project so the final emissions that would be allowed are dependent on that air permit should the Secretary issue the CZA permit. The air permit application pending before the Division of Air Quality also includes other emissions impacts that are not directly related to the Project’s expansion of hydrogen production. Any DAQ changes to the air permit would impose more stringent limits than those included in the CZA permit application, which proposed the following levels of air emissions after installing pollution control equipment described in the CZA permit application:

Source	NO _x (TPY)	SO ₂ (TPY)	H ₂ SO ₄ (TPY)	CO (TPY)	VOC (TPY)	PM (TPY)	PM ₁₀ (TPY)	PM _{2.5} (TPY)	NH ₃ (TPY)
Reformer Process	16.2	0.1	0.01	19.2	3.9	12.2	12.2	12.2	6.6
Flare Pilots/Purge		0.003	---	2.0	0.7	---	---	---	---
Cooling Tower	---	---	---	---	---	0.4	0.1	0.001	---
Steam Generation System	---	---	---	3.0	4.0	---	---	---	2.7
Total Emissions (TPY)	16.2	0.1	0.01	24.2	8.6	12.6	12.3	12.2	9.3

The Project also proposes to retire three package boilers that are used to produce steam as they will no longer be needed once the hydrogen plant’s waste heat will be used to

⁵ The air pollution control permit application for the Project’s new equipment was publicly noticed and did not receive any public comment and the Division of Air Quality will complete its review following a final decision on the CZA permit application.

produce steam. It is estimated that the retirement will occur no more than six months from when the hydrogen plant commences operation in order to ensure proper operation of the Facility's refinery operations. The retirement of these units will provide considerable offset to the Project's new equipment's increased air emissions as shown below:

Source	NO _x (TPY)	SO ₂ (TPY)	H ₂ SO ₄ (TPY)	CO (TPY)	VOC (TPY)	PM (TPY)	PM ₁₀ (TPY)	PM _{2.5} (TPY)	NH ₃ (TPY)	Total Change In Air Emissions(TPY)
Total Emissions from new equipment	16.2	0.1	0.01	24.2	8.6	12.6	12.3	12.2	9.3	
Offset by shutdown of 3 Package Boilers	-14.5	-29.6	-4.8	-44.7	-1.9	-13.7	-13.7	-13.7	-8.9	
Total Project Emissions (TPY)	1.7	-29.5	-4.8	-20.6	6.7	-1.0	-1.3	-1.4	0.4	-49.8

The Applicant also proposed as an offset the SO₂ emissions reduction from the combustion of the lower sulfur fuels to be produced. The Department accepted this offset, which is based upon the Project's annual removal of approximately 20,440 tons of sulfur from refined products, which will correlates to 40,880 tons per year in SO₂ reductions when the fuels are burned by endusers. The Department's experts verified the assumption that approximately 6,000 tons per year of SO₂ emissions are expected to occur in Delaware, including the Coastal Zone, and its surrounding area. Thus, the Project will result in improved air quality based upon the direct reduction of 49.8 tons per year in total emissions from the three boilers and indirect benefit from removing 6,000 tons per year SO₂ from endusers in Delaware burning the cleaner fuels. In addition, the Department experts also estimate that the indirect benefits will be larger based upon endusers in adjacent states using the cleaner fuels, which will reduce SO₂ being transported to Delaware from these states by the wind. I find that the offset supports granting a CZA permit for the expansion of use.

Water and Wastewater Impacts

The Project's water usage from the new equipment will be 139 gpm for process use, steam production, and make-up cooling water. These uses reflect the design and equipment to reduce water usage by air cooling of the water and the installation of a 2,000 gpm cooling water

tower. The increased water usage from the new equipment totals would be more than offset by the 251 gpm reduction in water usage when the 3 boilers are retired. The Project's water will come from Applicant's existing groundwater wells and public utility water companies.

The wastewater treatment services of the Facility's wastewater treatment plant are 13 gpm demand of water for the cooling tower blowdown and 8 gpm demand for the boiler blowdown. The treatment plant has available capacity for these uses under its authorized Department NPDES permit. The result is a 0.3% usage increase of the treatment plant's 7,000 gpm capacity and the water used by the Project will be treated by the treatment plant consistent with the existing permit.

I find that this impact is offset and consistent with granting a CZA permit for the expansion of use.

Solid waste impacts

All construction and demolition waste materials associated with the construction of the Project will be disposed of outside the Coastal Zone; other solid and hazardous wastes will be transported and disposed of at appropriate facilities/locations outside the Coastal Zone. No further impacts to habitat are anticipated. I find that this impact is consistent with granting a CZA permit for the expansion of use.

Other impacts

The application shows that the other environmental impacts were considered, such as on wildlife and fisheries. The Project will pose no negative impact to the environment for wildlife and fisheries. I find that these impacts are consistent with granting a CZA permit for the expansion of use.

Offset analysis and CZA Considerations

The CZA program employs an offset matrix to assess the overall impacts and applies a ratio of 1.3 in benefits for each 1 adverse environmental impact to evaluate the overall impact on the Coastal Zone's environment. In this case, the Project, as shown above, has only slight new increase in three air pollutants, NO_x, VOCs and NH₃. These increases are more than offset by the substantial overall reduction in total air emissions from SO₂, CO, PM and H₂SO₄. The Project's water usage will be reduced and all discharges will be fully treated by the wastewater treatment plant.

In addition, I find that the Project furthers a major environmental benefit in cleaner air from increasing the production of fuels with lower sulfur contents and decreasing the production of fuels with higher sulfur content. The cleaner-burning ultra-low sulfur fuels (diesel, home heating oil, and gasoline) will be used in Delaware and the surrounding region. With the transport of air pollution by the wind, Delaware will benefit from reducing air pollution in other states. Thus, I find that the Department's CZA policy of a target offset of 1.3:1 is achieved.

The Secretary previously approved the Environmental Assessment Report, which is a preliminary decision prior to hearing from the public. The public comments were all in favor of the Project except for one individual who was opposed to increased investment for fossil fuel production but recognized the benefits from producing cleaner burning lower sulfur fuels than currently produced. The Department's experts reviewed the negative impacts and found nothing to warrant a permit denial. Indeed, the Department's experts determined that the negative impacts are more than outweighed by the Project's benefits.

The Project's economic benefits are considerable in both the construction and the long-term survival of the Facility, which plays a vital and important role in Delaware's economy. The future is with the production of cleaner fuels to meet the more stringent air quality standards and

to improve the environment and public health. The record supports finding that the Project will, after the offsets, have no overall negative environmental impact on the CZ.

I find the record supports the “built in” offset as consistent with the nature and type of offset that will be “clearly and demonstrably” more beneficial to the CZ environment, as required by the Regulation 9.1.1.

Any application for a Coastal Zone 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 negative environmental impacts associated with the proposed project or activity requiring a permit. It is the responsibility of the applicant to choose an offset project that is clearly and demonstrably more beneficial to the environment in the Coastal Zone than the harm done by the negative impacts associated with the permitting activities themselves.

Section 9.1.1 of CZA Regulations.

I find the proposed offset of any negative environmental impact satisfies the CZA and the CZA Regulations.

The CZA’s second consideration is the proposed economic effect and the Facility will have a positive economic impact by its construction activity and ongoing employment. I find the positive economic benefit, as described herein, provides justification for a permit as consistent with the CZA’s purposes, which anticipate regulated growth of heavy industrial manufacturing uses such as the Facility. The Project will provide \$30 million in construction spending on payroll and supplies during its two years of construction and then provide further tax revenues on an ongoing basis. The Project will enable the Facility to continue to operate and produce the required lower sulfur fuels needed to meet the more stringent air quality standards and compete against other refineries.

The third CZA consideration is the number and type of supporting facilities required and their impacts on all other factors. The Facility will require little support facilities other than a

natural gas pipeline to be built by the natural gas company. Thus, the support facilities will not cause any undue adverse impact on the environment.

The fourth CZA consideration is aesthetic. The Project will be part of the existing Facility so there will be no real change and any change is not readily visible from the street. Thus, the Facility satisfies this CZA consideration.

The fifth consideration is the effects on neighboring land uses, and the Applicant states that there would be no adverse impacts on the closest residential property. I agree based upon the overall negligible impacts and appearance.

The sixth consideration is that Project will be consistent with county and municipal comprehensive plans, which Applicant satisfied by providing proof of New Castle County's approval of the Project's use consistent with local planning authority.

Therefore I find that the Department should issue Applicant the permit because the Project will be an allowable expansion of a pre-existing non-conforming manufacturing use that will have sufficient environmental offsets of the negative impacts and provides considerable economic benefits. The Project will allow the continued use of the Facility as it competes with other refineries in the market to produce cleaner fuels. Based upon the record, I find that a CZA permit should be issued, subject to the reasonable permit conditions included by the CZA Program in its draft permit to ensure that the permit is consistent with the CZA, the Department's regulations and policies, and the Coastal Zone Act's statutory purposes and policies. The draft permit requires the Applicant to submit to the Department within six months of the Project's operation documentation showing that the environmental offsets, as described in the application and approved herein, have been met.

IV. CONCLUSIONS

I find and conclude that the record supports approval of the permit application and issuance of the draft permit, and recommend that the Secretary adopt the following conclusions:

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

2. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and its regulations;

3. The Department held a public hearing in a manner required by the law and its regulations;

4. The Department considered all timely and relevant public comments in making its determination;

5. The Department shall issue a permit to the Applicant in the form and manner proposed by the CZA Program in its draft permit;

6. The Department carefully has considered all the factors to be considered in making a decision on a CZA permit application under the CZA and its regulations; and

7. The Department shall publish legal notice of an Order and otherwise provide notice to all affected persons in a manner consistent with the public notice required by the law and regulations, and shall publish on the Department's web site.



Robert P. Haynes, Esquire
Senior Hearing Officer



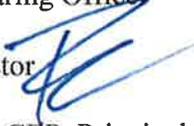
STATE OF DELAWARE
DIVISION OF ENERGY & CLIMATE
1203 COLLEGE PARK DRIVE, SUITE 101
DOVER, DELAWARE 19904

Office of the Secretary
David S. Small

Phone: (302) 735-3480
Fax: (302) 739-1840

MEMORANDUM

TO: Robert P. Haynes, Hearing Officer

THRU: Philip J. Cherry, Director 

FROM: Kevin F. Coyle, AICP CEP, Principal Planner 

DATE: April 1, 2015

SUBJECT: Recommendation for the Issuance of a Coastal Zone Act Permit

The Coastal Zone Act (CZA) Program, after considering the comments from the public hearing on March 18, 2015 for the Delaware City Refining Company, LLC CZA Permit Application for their Low Sulfur Fuels Project, recommends the issuance of the attached draft permit. Our recommendation is based upon the Program's opinion that the application satisfies the Coastal Zone Act and the Regulations Governing Delaware's Coastal Zone.

Attachment

Delaware's Good Nature depends on you!

**DELAWARE
COASTAL ZONE ACT
PERMIT**

NUMBER: 418

ISSUED TO: Delaware City Refining Company, LLC (Permittee)

TO PERMIT: The construction and operation of new hydrogen production equipment to enable the Refinery to enhance clean fuel production as part of its low sulfur fuels project.

SITE LOCATION: 4550 Wrangle Hill Road, Delaware City, Delaware 19706

Conditions Incorporated and Made Part of this Permit:

1. This permit is conditional upon the Permittee's compliance with all other applicable permit requirements, regulations and laws of the State of Delaware.
2. Issuance of this permit does not relieve the Permittee of the legal obligation of complying with all building permits, subdivision and other applicable code requirements of the county or municipality wherein the permitted project is located.
3. If there are significant deviations from the plan and operations approved by the Secretary, the Permittee shall notify the Secretary as soon as possible. This permit may be revoked and a new permit application required if the Secretary deems the deviation to substantially change the nature of scale of the project and to be of actually or probably harm to the purposes of the Coastal Zone Act.
4. This permit does not alter the Permittee's existing limit on crude oil throughput as established in 2004 in CZA Permit 355.
5. Within six months from the Department's issuance of the air pollution control operating permit for the new equipment, Permittee must submit to the Department acceptable documentation of meeting the offsets described in the Permittee's application.

Signature: _____ Date: _____

David S. Small, Secretary
Department of Natural Resources & Environmental Control