



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL

89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

PHONE: (302) 739-9000  
FAX: (302) 739-6242

OFFICE OF THE  
SECRETARY

**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).<sup>1</sup>

**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,

---

<sup>1</sup> A subsidiary of PBF Energy, Inc.

*Delaware's Good Nature depends on you!*

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,<sup>2</sup> the proposed expansion of the Facility's

---

<sup>2</sup> 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 day<sup>3</sup> 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

---

<sup>3</sup> 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 (SO<sub>2</sub>). The Department estimates the Project will reduce SO<sub>x</sub> air emission by approximately 6,000 tons annually in Delaware alone and even more when lower SO<sub>x</sub> 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", written in a cursive style.

David S. Small  
Secretary