DOE/EA-1795

# FINDING OF NO SIGNIFICANT IMPACT
# DEPARTMENT OF ENERGY LOAN GUARANTEE TO DIAMOND GREEN DIESEL FOR CONSTRUCTION OF THE DIAMOND GREEN DIESEL FACILITY IN NORCO, LOUISIANA

**AGENCY:** U.S. Department of Energy, Loan Programs Office

**ACTION:** Finding of No Significant Impact

**SUMMARY:** The U.S. Department of Energy (DOE) conducted an environmental assessment (EA) that analyzed the potential environmental impacts associated with the construction and operation of a biomass-based diesel facility adjacent to the existing Valero St. Charles Refinery in Norco, Louisiana. DOE, through its Loan Programs Office, proposes to provide a Federal loan guarantee in the amount of $241 million pursuant to Title XVII of the Energy Policy Act of 2005 (EPAct 2005) to Diamond Green Diesel, LLC (Diamond) to support construction of the facility. The purpose and need for agency action is to comply with DOE's mandate under EPAct 2005 by selecting eligible projects that meet the goals of the Act. DOE is using the NEPA process to assist in determining whether to issue a loan guarantee to Diamond to support the proposed project.

The Diamond facility would produce up to approximately 10,920 barrels per day (bpd) (167 million gallons per year (MGY)) of green diesel using up to approximately 12,332 bpd (189 MGY or 1.8 billion pounds per year) of renewable biomass feedstock (animal fats and waste grease). The Diamond Green Diesel product is compatible with the existing national transport infrastructure, is expected to result in a reduction in greenhouse gas emissions of 1.6 million metric tons per year compared to petroleum diesel production, and is expected to result in significant improvements in productivity compared to commercial technology currently used in the U.S.

All discussion and analysis related to the potential impacts of construction and operation of the proposed facility are contained in the Final EA (DOE/EA-1795), which is incorporated by reference. DOE examined potential impacts on the following resources and found none to be significant: land use and visual resources; air quality; noise; geology and soils; water resources, including floodplains; biological resources; cultural resources; socioeconomics and environmental justice; utilities; transportation; waste management; public and occupational health and safety, including impacts related to intentionally destructive acts; and cumulative effects, including global climate change.

In compliance with Executive Order 11988, Floodplain Management and DOE's implementing regulations found in the Code of Federal Regulations Title 10 Part 1022, a notice of floodplain action was published in the St. Charles *Herald-Guide* on December 9, 2010, and a floodplain assessment was conducted for the proposed project and incorporated into the EA. The floodplain statement of findings is attached, and its availability will be announced in the St. Charles *Herald-Guide*.

In accordance with applicable regulations and policies, DOE sent a notification letter regarding the Department's determination to prepare an EA to the Louisiana Department of Environmental Quality on June 17, 2010. The letter described the proposed action and stated that a draft EA would be sent to the state for review. On December 7, 2010, DOE sent the draft EA to the Louisiana Department of Environmental Quality and invited their comments on the draft. The draft EA was also posted on the Loan Programs Office website and a notice of availability was published in the St. Charles *Herald-Guide*. The Louisiana Department of Environmental Quality submitted general comments that did not request or require additional analysis or revision of the EA. No other comments were received.

**DETERMINATION:** On the basis of the Final EA, DOE has determined that providing a Federal loan guarantee to Diamond Green Diesel, LLC to support construction of the proposed biomass-based diesel facility in Norco, Louisiana, will not have a significant affect on the human environment. The preparation of an environmental impact statement is therefore not required, and DOE is issuing this Finding of No Significant Impact.

Copies of the Final EA are available at the DOE Loan Programs Office website at www.lgprogram.energy.gov/NEPA_DOC.html or from

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Washington, DC 20585
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Additional information on the DOE NEPA process is available from

Office of NEPA Policy and Compliance
U.S. Department of Energy
1000 Independence Avenue, SW
Washington, DC 20585
202-586-4600 or 1-800-472-2756

Issued in Washington, DC on the 18 day of APRIL in the year 2011.

Jonathan Silver
Executive Director, Loan Programs

**ATTACHMENT**
**FLOODPLAIN STATEMENT OF FINDINGS**
**FOR DEPARTMENT OF ENERGY LOAN GUARANTEE TO DIAMOND GREEN DIESEL FOR CONSTRUCTION OF THE DIAMOND GREEN DIESEL FACILITY IN NORCO, LOUISIANA**

The U.S. Department of Energy (DOE) proposed action is to issue a loan guarantee to Diamond Green Diesel, LLC (Diamond) to support construction of a biomass-based diesel (green diesel) facility adjacent to the existing Valero St. Charles Refinery (VSCR) in Norco, Louisiana. The proposed facility would use renewable biomass feedstock (animal fats and waste grease) to produce up to approximately 10,920 barrels per day (167 million gallons per year) of green diesel. The proposed project would be located approximately 20 miles upriver from New Orleans, Louisiana, in Norco, St. Charles Parish (Figures 1 and 2).

The Diamond project would be built adjacent to, but interconnected with, the existing VSCR. The site has been used by VSCR for laydown, construction, and staging for approximately three years. The green diesel project site is bounded on the northwest and southwest by petroleum refining and chemical process units, including the existing VSCR to the southwest. The total project would include the main project site of approximately 20 acres, a new elevated piperack that would originate within the 20-acre green diesel plant and tie into an existing VSCR elevated piperack, a new rail spur and rail scale covering approximately 4.5 acres, and an existing offsite laydown area of approximately 23 acres for parking, staging, and laydown that would be used during construction. This area is located approximately 2 miles northwest of the project site, has been in use for parking and laydown since 2008, and is cleared, filled, graded and covered with limestone gravel.

The proposed project is within Zone A of the 100-year floodplain as determined by the Federal Emergency Management Agency (FEMA) in 1992.

Several factors were considered in the site selection process, which collectively led to location of the project at this site. Diamond undertook a deliberative site selection process for the project, first considering two primary options: construction on a greenfield site or co-locating with an existing Valero refinery. The co-location option was chosen based on the considerable economic and environmental advantages associated with integrating the green diesel project with existing infrastructure. Potential advantages of co-location included the ability of the adjacent refinery to supply hydrogen, nitrogen, amine, steam, treated water (boiler feed, process, and cooling), and caustic, in addition to the ability to provide wastewater treatment and to allow for the recovery of hydrogen from purge gas and sulfur from sour water and rich amine. In addition, co-location offers the obvious advantage of providing the ability to route green diesel products directly into existing refinery product streams for storage and transport.

Having decided to co-locate the green diesel project with an existing Valero refinery, Diamond then considered which refinery offered the greatest overall advantages. Of the thirteen Valero refinery locations in the U.S., three potential sites were initially considered. These included the St. Charles, Port Arthur, and Corpus Christi refineries. Corpus Christi, while not being situated in the 100-year floodplain, was eliminated for several reasons. Corpus Christi could not meet the

sour gas supply demand for the green diesel plant, was not close to raw material and pretreatment material supplies, and land availability for the project was inadequate. These negatives would have required additional land disturbance and additional transportation impacts and cost, and land availability could have become a critical hindrance to project development. With regard to Port Arthur, sour gas supply was also inadequate, and several other aspects of the project integration, though adequate, were less advantageous than St. Charles. The Port Arthur refinery is also in the 100-year floodplain. Thus, selection of St. Charles Parish as the project site provided the greatest advantages, both economically and environmentally, with no greater floodplain impact than the next best site option.

The proposed plant site covers approximately 20 acres, which currently drain to the surrounding wetlands areas. The green diesel project would not reduce the size of surrounding wetlands, and storm water would continue to drain to those areas after the project is constructed. First flush storm water would be collected via a retention basin and treated to avoid any potential for contaminated storm water discharge. The proposed plant site has been previously filled and is currently covered in limestone gravel and in use as a parking and lay down area, thus it is not currently providing significant floodwater storage capacity. Additionally, the newly constructed retention basin would receive storm water from any impervious process areas, thereby offsetting lost capacity for storm and floodwater storage provided by the existing gravel covered soil.

Similarly, the offsite lay down and parking area is filled and graveled and does not currently serve as floodwater storage. The use of this site for laydown and parking would be temporary during construction and would be the same as the current use; therefore no change with respect to flooding risks or impacts would result from the proposed project.

The plant site is protected from storm surge by the St. Charles Parish East Bank Hurricane Protection Levee to the north and the Lower Guide Levee and the Bonnet Carre Spillway to the west. The plant site has been previously filled to an elevation of approximately 98' NAVD88, which is the same approximate elevation as the adjacent VSCR industrial area. Green diesel project construction activities would utilize additional fill to account for any settling that has occurred and to grade the plant site to the desired approximate 98' NAVD88 elevation. Because the plant site would be at the same elevation as the adjacent VSCR process areas and higher than the adjacent surrounding wetlands areas, it would not receive storm water surges or floodwaters from the adjacent properties. Furthermore, at the approximate 98' NAVD88 elevation, the VSCR industrial site has not been subject to flooding, including significant hurricane events of recent years.

Construction of the green diesel plant at the proposed 20 acre site is not anticipated to impact the local floodplain or to create flooding or surge impacts to the surrounding developed properties because: it is a small area in comparison to the surrounding developed industrial sites (see Figure 1); it is currently not serving as prime floodwater storage capacity due to the fact that it is cleared, filled, raised to the level of the surrounding industrial sites and above the surrounding wetlands, and covered with gravel; and, a new retention basin would provide protection from contaminated storm water runoff and new capacity for storm water surge protection. Further, the plant site would be protected from flooding by being constructed at the approximate 98' NAVD88 elevation, and by the existing levee and spillway flood protection systems.

The local Floodplain Administrator is the St. Charles Parish Department of Planning and Zoning, which operates under the Parish Council. The Parish is aware of and has endorsed the project, as documented in the March 2010 St. Charles Parish MidTerm Report, in which Parish President V. J. St. Pierre cites plans for the biodiesel plant to be constructed at the site as an accomplishment in helping the Parish to achieve the Administration's stated Goal 6, to "build a diverse economy with the ability to sustain during economic changes." In addition, the St. Charles Parish Council adopted Resolution No. 5260 in 2005, stating that the Council offers no objection to expansion of the existing industrial development to include the proposed plant site, in conjunction with initiating the current use for laydown and parking.

The rail spur and railcar scale would impact a small footprint (approximately 4.5 acres combined), the planned use is consistent with the current use for the existing railroad, and the new spur and scale would be designed to avoid or minimize any obstruction to the existing flow patterns, therefore no concerns related to flooding are anticipated. In order to avoid obstruction of drainage resulting from the installation of the railway spur at the site, culverts large enough in size to possess sufficient flow capacity would be installed. Specifically, the culverts proposed for installation would be located under the existing roadway that traverses the site and under the proposed railway spur to the immediate east. These features have been designed to handle the necessary drainage without resulting in upstream flooding.

DOE has determined that the proposed action conforms to applicable floodplain protection standards. DOE/EA-1795 Section 3.6.2 contains the floodplain assessment summarized in this statement of findings.

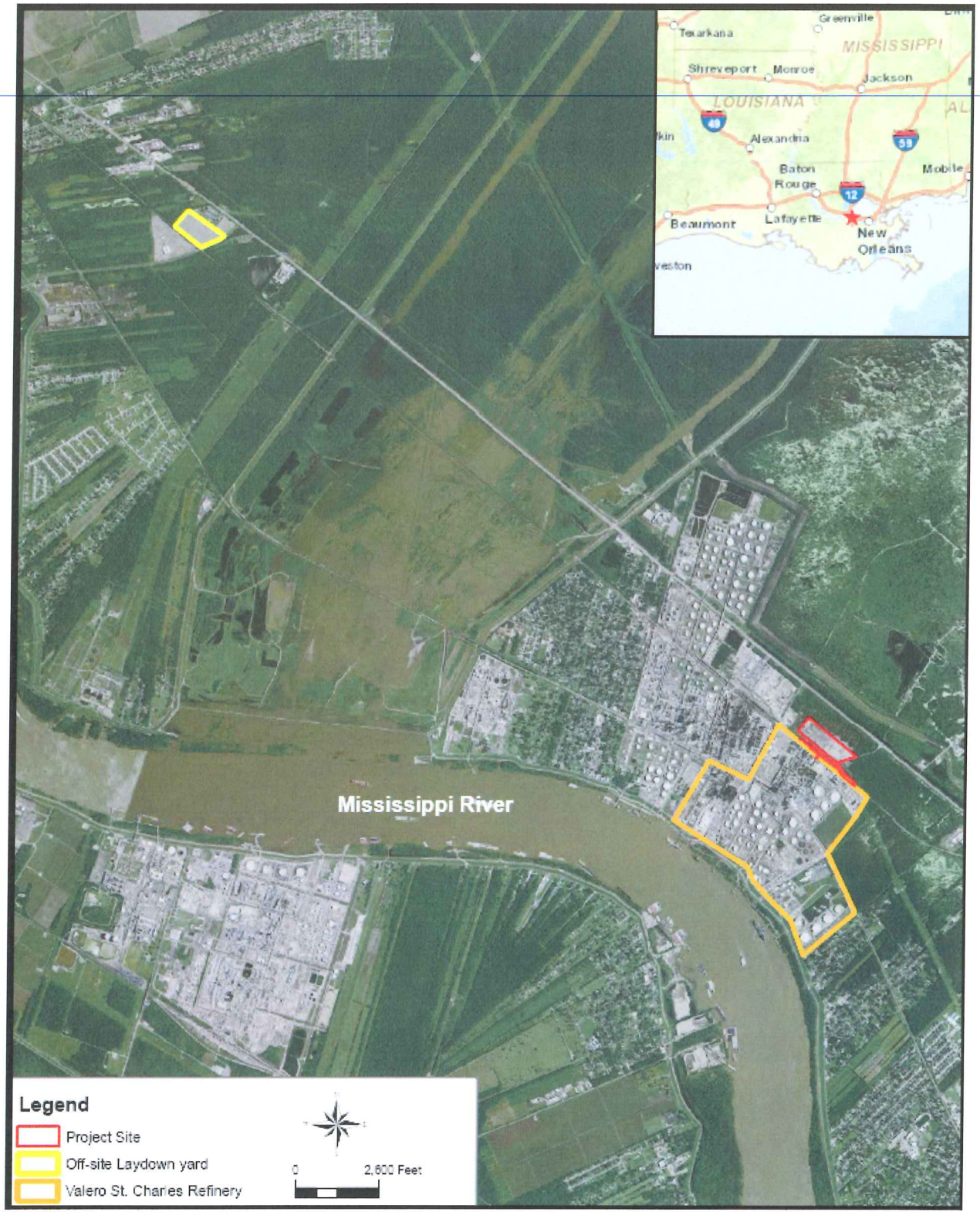


**Figure 1: Diamond Green Diesel Project Site Map**

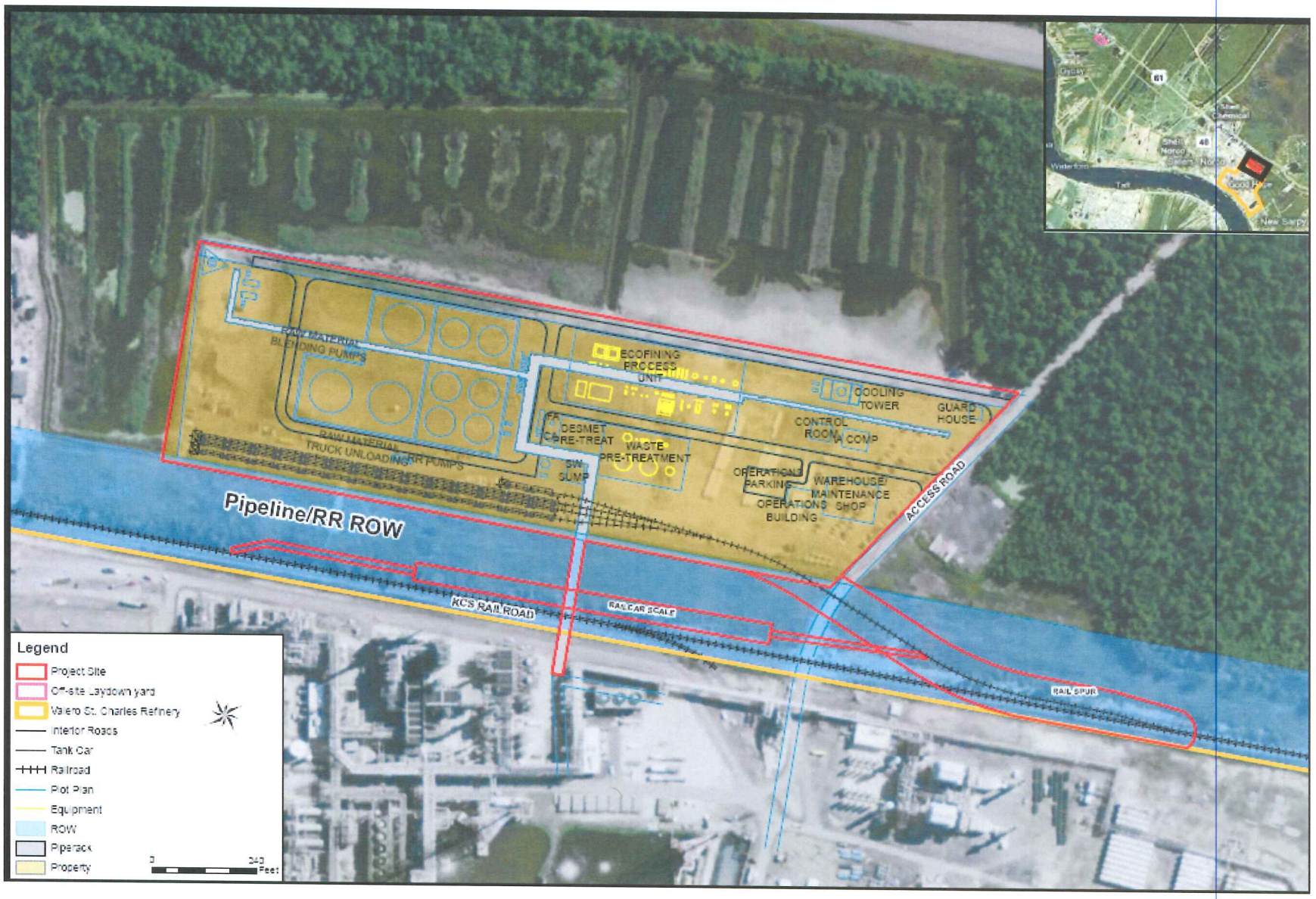


**Figure 2: Diamond Green Diesel Project Site Detail**