

Contract No. R-033-042
“Dickinson Renewable Diesel”
 Submitted by Tesoro Refining & Marketing Company
 Principal Investigator: Ron Day

PARTICIPANTS

Sponsor	Cost Share	
Tesoro Refining & Marketing Company	<u>\$3,000,000</u>	
Subtotal Cash Cost Share		\$3,000,000
North Dakota Industrial Commission	<u>\$500,000</u>	
Total Project Cost		\$3,500,000

Project Schedule – 36 months	Project Deliverables:
Contract Date – September 1, 2017	Semi-Annual Report: February 1, 2018 ✓
Start Date – August 1, 2017	Annual Report: August 1, 2018 ✓
Completion Date – August 1, 2020	Semi-Annual Report: February 1, 2019 ✓
	Annual Report: August 1, 2019 ✓
	Semi-Annual Report: February 1, 2020 ✓
	Final Report: August 1, 2020 ✓

OBJECTIVE/STATEMENT OF WORK:

This project will retrofit the 8,000 BPD Diesel Hydrotreater (DHT) and other equipment at Dakota Prairie Refinery to co-process renewable feedstocks (e.g., vegetable oils such as soy or distillers corn oil) into renewable diesel. The project will enable co-processing of up to 5% (16,800 gallons/day) of renewable feedstocks. The conventional/renewable diesel blend will be marketed locally by the end of 2017

STATUS:

The contract has been drafted.

The contract has been fully executed.

March 2018

A status report was received. According to the report, the following work was completed in September 2017:

- Modification of an existing 1.26-million-gallon storage tank for storing soybean oil feed – this includes, tank internal cleaning, installing nitrogen blanketing to prevent soybean oil oxidation and installation of emergency pressure/vacuum relief.
- Modification of an existing crude oil truck unloading station for soybean oil service – this includes piping modifications and the electrical heat tracing and insulation of pipe and equipment.
- Installation of 1,100 feet of new 4” pipe, electrically heat traced and insulated, to route the soybean oil from the truck unloading station to the storage tank. And electrically heat trace and insulate 1,240 feet of existing 4” pipe to enable transfer of the soybean oil from tankage to the Diesel Hydrotreater Unit.
- Installation of a new control valve station and flow meter for soybean oil feed control to the existing Diesel Hydrotreater Unit.

- Replacement of the reaction catalysts in the existing Diesel Hydrotreater Unit Reactors.

The current plan is to receive soybean oil and commence coprocessing operations in late March 2018, contingent on the EPA's approval of Andeavor's Renewable Diesel coprocessing registration protocol.

August 2018

A status report was received. The report states in part:

The EPA approved Andeavor's Renewable Diesel co-processing registration protocol and we began receiving soybean oil in late May 2018. We commenced co-processing operations on June 12, 2018.

February 2019

A status report was received. The report states in part:

With our success in obtaining sufficient renewable feedstock, blending of summer diesel continued through mid-October. During the winter cycle, the refinery is producing P40 without renewable content. Once the winter cycle finished, the refinery plans to return to co-processing the conventional/renewable diesel blend in March 2019.

July 2019

A status report was received. The report states in part:

In March 2019, Dickinson refinery completed P40 winter diesel production and resumed production of summer diesel blend. The refinery co-processes summer diesel with up to 5% soybean oil and ND Bakken crude. We continue to be successful in receiving sufficient supply of renewable feedstock and marketing the conventional/renewable diesel blend in North Dakota.

February 2020

A status report was received. The report states in part:

We continue to be successful in receiving sufficient supply of renewable feedstock and marketing the conventional/renewable diesel blend in North Dakota. The production of summer diesel continued through mid-October 2019. During the winter cycle the refinery is producing P40 diesel without renewable content.

September 2020

A status report was received. The report states in part:

In March of 2020, Dickinson refinery completed P40 winter diesel production and transitioned from P40 to a seasonal blend. Beginning November 2020, the refinery will produce 100% renewable diesel product.

This project made the Dickinson facility a major consumer of soy oil, consuming up to 1,000 barrels per day. The soy oil used at the facility was produced at a third-party facility in Enderlin ND.

This contract is now closed with no returned commitment.