

Contract No. R001-001
“Blue Flint Ethanol E85 Blending Facility”

Submitted by Blue Flint Ethanol LLC
Principal Investigator: Jeff Zueger

PARTICIPANTS

Sponsor	Cost Share
Blue Flint Ethanol LLC	\$65,815
North Dakota Industrial Commission	<u>\$50,000</u>
Total Project Cost	\$115,815

Project Schedule – 5 months	Project Deliverables:
Contract Date – September 5, 2008	Status Report: September 30, 2008 ✓
Start Date – September 1, 2008	Final Report: December 15, 2008 ✓
Completion Date – December 15, 2009	Interim Follow-up Report – June 15, 2009 ✓
	Final Follow-up Report– December 15, 2009 ✓

OBJECTIVE/STATEMENT OF WORK:

There is no consistent supplier of E85 (85% ethanol and 15% gasoline) to retail fuel outlets in North Dakota. This has caused issues with supply, price and quality. Blue Flint Ethanol (BFE) located in Underwood, North Dakota, through this grant application will install facilities that will allow for in line blending of E85 at their facility. BFE will, in turn, market the E85 as motor fuel to the retail fuel stations in the state with E85 pumping capacity and to potential retail fuel outlets. The applicant believes the consistent availability of an E85 product that is blended into the truck as opposed to splash or tank blended will grow retail market use of this product.

STATUS

Contract Executed.

September 30, 2008 status report received. Report states purchase orders written and contractors have been scheduled. Installation has begun with work scheduled through the end of October to be followed by testing.

December 15, 2008 final report received. Report states pump, piping and blending skid has been installed with the blending skid controls integrated into the existing load out skid controls providing a single load point for any blended product. Side stream blending allows the denaturant or unleaded gasoline to be blended or injected into the ethanol line just prior to it being loaded into the truck tanker creating a high quality blend of E85. Upon completion of the blend skid, pump, piping and electrical, the blend skid was programmed with the required three different blends of ethanols and calibrated to support those blends.

June 15, 2008 interim follow-up report received. Report notes that pricing of E85 is driven by a number of factors. The interim report notes that the insufficient number of E85 retail pumps has limited market expansion. It is hoped that with the passage of Senate Bill 2228 (2009 legislative session) there will be an increase in the installation of bio-fuel blender pumps. It is anticipated this would provide significant market expansion for both ethanol and E85 in the state. At this point in time there is no specific data available regarding market penetration. Quality control has been good with the samples from the loading showing that on average the samples are within one percent of desired ratio. Since installing the blending infrastructure Blue Flint has not been made aware of any consumer complaints regarding the E85 product that was blended and marketed by the facility.

December 15, 2009 Final Follow-Up Report received. The objective of this project was to eliminate splash blending E85. This was accomplished with the installation of an E85 blending skid that blends ethanol and denaturant or unleaded gasoline as it is loaded for transport. This has resulted in improved product quality, lower price opportunities to the consumer and better supply options to retail fuel stations.